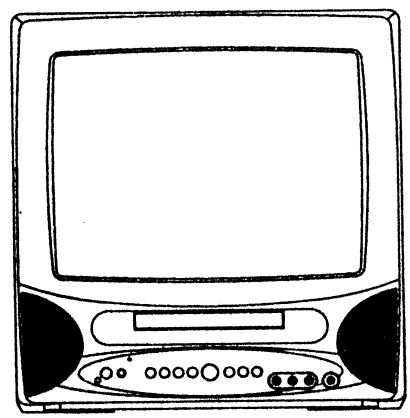
SERVICE MANUAL

ORION

DVD/C-1462 SI

COLOR TELEVISION/DVD PLAYER



CLASS 1
LASER PRODUCT

ORIGINAL
CHASSIS CODE B

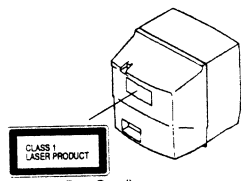
Best. Nr. SM1462

Design and specifications are subject to change without notice.

IMPORTANT WARNING

CAUTION:
DVD PLAYER IS A CLASS 1 LASER PRODUCT. HOWEVER THIS PLAYER USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

THE FOLLOWING CAUTION LABEL IS LOCATED ON THE REAR PANEL OF THE PLAYER.



(Printed on the Rear Panel)

WHEN THIS PLAYER IS PLUGGED TO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS PLAYER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

3. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

4. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the CHASSIS CODE.)

1. MODEL NUMBER and CHASSIS CODE
   The MODEL NUMBER can be found on the back of each product and the CHASSIS CODE can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

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DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet and AV PCB/DVD Block. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Slide the Rack Loading (White) toward the arrow direction by using a minus driver to release the lock. **(Refer to Fig. 1)**
3. Draw the Tray.

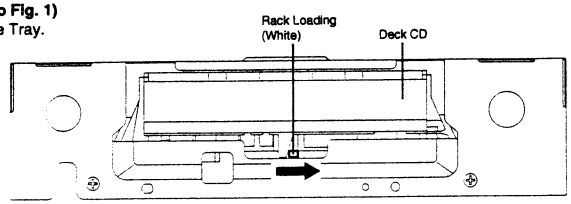


Fig. 1

PARENTAL CONTROL - RATING LEVEL

4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the 'STOP' key on the front panel.
3. Simultaneously press and hold the '7' key on the remote control unit.
4. Hold both keys for more than 3 seconds.
5. The On Screen Display message 'PASSWORD CLEAR' will appear.
6. The 4 digit password has now been cleared.

NB: The above procedure will reset ALL of the player's settings to the default factory state.

GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size		14 inch / 335.4mmV
			CRT Type		Normal
			Deflection		90 degree
			Magnetic Field BV/BH		+0.45G / +0.18G
		Color System			PAL
		Speaker			2 Speaker
			Position		Front
			Size		1.5 x 2.7 inch
			Impedance		8 ohm
		Sound Output	MAX		1.5W + 1.5W
			10%(Typical)		1.5W + 1.5W
G-2	DVD System	Color System			PAL
		Disc			DVD, CD-DA, CD-R/RW, Video CD, SVCD
		Disc Diameter			120 mm , 80 mm
		Deck	Disc Loading System		Front Loading
			Motor		2 Motors
		Pick up			1-Lens 2-Beams System
		Playback time(Max)	DVD DVD 1-Layer		135min (4.7GB)
			DVD 2-Layer		245min (8.5GB)
			CD		74min
			Video CD		74min
		Search speed	Fwd		2-20 times / 4 step
				Actual	2-45 times (DVD, VIDEO CD)
					4-40 times (CD)
			Rev		2-20 times / 4 step
				Actual	2-45 times (DVD, VIDEO CD)
					4-40 times (CD)
		Slow speed	Fwd		1/7 - 1/2 times
				Actual	--
			Rev		1/7 - 1/2 times
				Actual	--
G-3	Tuning System	Broadcasting System			CCIR System B/G
		Tuner and	System		1Tuner
		Receive CH	Destination		CCIR HYPER
			Tuning System		F-Synth
			Input Impedance		VHF/UHF 75 ohm
			CH Coverage		E2~E4, X~Z+2, S1~S10, E5~E12,S11~S41,E21~E69
		Intermediate	Picture(FP)		38.9MHz
		Frequency	Sound(FS)		33.4MHz
			FP-FS		5.5MHZ
		Auto Tuning Method			CCIR CH Plan
		Preset CH			80CH
		Stereo/Dual TV Sound			No
		Tuner Sound Muting			Yes
G-4	Signal	Video Signal	Input Level		1 V p-p/75 ohm
			Output Level		1 V p-p/75 ohm
			S/N Ratio (Weighted) at DVD Mode		65dB
			Horizontal Resolution at DVD Mode		400 Lines
		RGB Signal	Output Level		-
		Audio Signal	Input Level		-3.8dBm/50k ohm
		TV	Output Level (0dB=0.775Vrms)		-3.8dBm/1k ohm
		DVD	Output Level (-20dBFs 0dBFs=2.0Vrms)		-12.0dBm/1k ohm
			Digital Output Level		0.5 V p-p/75 ohm(DVD)
			S/N Ratio at DVD (Weighted)		90 dB
			Harmonic Distortion at DVD Mode		0.06% (1kHz)
			Frequency Response :		
			DVD Mode	at DVD	4Hz - 22kHz
				at VIDEO CD	4Hz - 20kHz
				at SVCD	4Hz - 20kHz
				at CD	4Hz - 20kHz
G-5	Power	Power Source	AC		230V 50Hz
			DC		-
		Power Consumption		at AC	55 W at 230 V 50 Hz
				at DC	-
			Stand by (at AC)		8 W at 230 V 50 Hz
			Per Year		-
		Protector	Power Fuse		Yes
G-6	Regulation		Safety		CE
			Radiation		CE
			X-Radiation		PTB
G-7	Temperature		Operation		+5°C ~ +40°C
			Storage		-20°C ~ +60°C
G-8	Operating Humidity				Less than 80% RH
G-9	On Screen Display	Menu			Yes
		Menu Type			Character
		CH Tuning			Yes

			Manual		Yes	
			Auto		Yes	
			CH Allocation		Yes	
		Picture			Yes	
			Contrast		Yes	
			Brightness		Yes	
			Color		Yes	
			Tint (NTSC Only)		Yes	
			Sharpness		Yes	
		Audio				No
			Bass			No
			Treble			No
			Balance			No
		AV Color System			Yes	
		Language			Yes	
		Clock Set				No
		On Timer Set				No
		Off Timer Set				No
		Sound System				No
		Control Level			Yes	
			Brightness		Yes	
			Contrast		Yes	
			Color		Yes	
			Sharpness		Yes	
			Tint (NTSC Only)		Yes	
			Volume		Yes	
			Tuning		Yes	
			Bass			No
			Treble			No
			Balance			No
		NICAM ST				No
		G(A2)Stereo				No
		CH/AV/DVD			Yes	
		Skip			Yes	
		Channel			Yes	
		Sleep Timer			Yes	
		Sound Mute			Yes	
G-10	On Screen Display	Menu (DVD)			Yes	
		Menu Type			Character	
		Language			Yes	
			Menu		Yes	
			Subtitle		Yes	
			Audio		Yes	
		Picture			Yes	
			TV Screen Size		Yes	
			OSD Display On/Off		Yes	
			JPEG Interval		Yes	
			Select Files		Yes	
		Sound			Yes	
			DRC (Dynamic Range Control)		Yes	
			dts Decode			No
			Output(5.1ch/ 2ch)			No
			Surround On/Off			No
			Center On/Off			No
			Sub Woofer On/Off			No
		Parental			Yes	
			Password Lock/ Un Lock		Yes	
			Rating Level		Yes	
		Other			Yes	
			OSD Language(Set up Language)		Yes	
			Output(RGB/Composite)			No
		Open			Yes	
		Close			Yes	
		No disc			Yes	
		Reading			Yes	
		Play			Yes	
		Still/Pause			Yes	
		Stop			Yes	
		Prohibit Mark			Yes	
		Step			Yes	
		Skip(>>|)			Yes	
		Skip(|<<)			Yes	
		Random			Yes (CD,MP3,JPEG)	
		Repeat			Yes	
		Slow- ##			Yes	
		Search+ ##			Yes	

			Search- / Reveal		Yes	
			Skip+			No
			Skip+ / F/T/B		Yes	
			Skip-			No
			Skip- / Hold		Yes	
			Slow+			No
			Slow+ / Cyan		Yes	
			Slow-			No
			Slow- / Red		Yes	
			Still/Pause			No
			Still/Pause / Green		Yes	
			Up/ Set+/ CH Up			No
			Up/ Set+/ CH Up/ Page Up		Yes	
			Down/ Set-/ CH Down			No
			Down/ Set-/ CH Down/ Page Down		Yes	
			Play Mode			No
			Play Mode/ Yellow		Yes	
G-14	Features	Auto Shut Off			Yes	
		Auto Search			Yes	
		CH Allocation			Yes	
		Auto CH Memory			Yes	
		Protect of FBT Leak Circuit				No
		Power On Memory			Yes	
		TText			Yes	
				Text type	UNI Text	
		Tray Lock				No
		Parental Lock (DVD Only)			Yes	
		VIDEO CD Playback			Yes	
		SVCD Playback			Yes	
			Overlay Graphics And Text			No
			Command List			No
			Entry Point Jump			No
		MP3 Playback			Yes	
		WMA Playback				No
		JPEG Playback			Yes	
		Digital Out	(Dolby Digital)		Yes	
			(MPEG)		Yes	
			(PCM)		Yes	
			(DTS)		Yes	
		Down Mix Out	(Dolby Digital)		Yes	
			(DTS)			No
		TruSurround				No
		Screen Saver				No
		Audio DAC			192kHz / 24bit	
G-15	Accessories	Owner's Manual	Language		German	
			w/Guarantee Card		Yes	
		Remote Control Unit			Yes	
		Rod Antenna				No
			Poles		-	
			Terminal		-	
			w/300 ohm to 75 ohm Antenna Adapter		-	
		Loop Antenna				No
			Terminal		-	
		U/V Mixer				No
		DC Car Cord (Center+)				No
		Guarantee Card				No
		Warning Sheet				No
		Circuit Diagram				No
		Antenna Change Plug				No
		Service Facility List				No
		Information Sheet				No
		Important Safeguard				No
		Dew/AHC Caution Sheet				No
		AC Plug Adapter				No
		Quick Set-up Sheet			Yes	
		Battery			Yes	
			UM size x pcs		UM-4 -2 pcs	
			OEM Brand			No
		AC Cord				No
		AV Cord (2Pin-1Pin)				No
		21pin-RCA Cable				No
		Registration Card				No
		PTB Sheet				No
		Anti-Theft Sheet				No
		Euro Warranty Information Sheet				No
G-16	Interface	Switch Front	Power(Tact)			No
			Channel Up		Yes	

		Search- ##			Yes
		Jump			Yes
		Resume			Yes
		Title No.			Yes
		Chapter No.			Yes
		Track No.			Yes
		Time			Yes
		Sub Title No.			Yes
		Angle No.			Yes
		Vocal On/Off			Yes
		Audio No.			Yes
		Audio Stereo L/R			Yes (Video CD, SVCD)
		Zoom			Yes
		Marker No.			Yes
		Program Play Back			Yes (CD,MP3,JPEG)
		Surround On/Off			No
		Screen Saver			No
		MP-3,JPEG	Folder Name		Yes
			File Name		Yes
			File No		Yes
			Time		Yes
			Track No		Yes
G-11	OSD Language	(TV)			English, French, Spanish, German, Italian
		(DVD)			English, French, Spanish, German, Italian
G-12	Clock and Timer	Sleep Timer	Max Time		120 Min
			Step		10 Min
		On/Off Timer	Program(On Timer / Off Timer)		No
		Wake Up Timer			No
		Timer Back-up (at Power Off Mode)	more than		-- Min Sec
G-13	Remote Control Unit	Unit			RC-HE
		Glow in Dark Remocon			No
		Format			NEC
		Custom Code			71-8E
		Power Source	Voltage(D.C)		3V
			UM size x pcs		UM-4 x 2 pcs
		Total Keys			46 Keys
		Keys	Power		Yes
			1		Yes
			2		Yes
			3		Yes
			4		Yes
			5		Yes
			6		Yes
			7		Yes
			8		Yes
			9		Yes
			0/AV		Yes
			Open/Close		Yes
			Play		Yes
			Stop		Yes
			Display/Call		Yes
			TV/DVD		Yes
			Cancel		Yes
			Audio		Yes
			Angle		Yes
			Subtitle		Yes
			Subtitle On/Off		No
			Title		Yes
			Setup/Menu		Yes
			Return		Yes
			DVD Menu		Yes
			Left/Select-		Yes
			Right/Select+		Yes
			Select/Enter		Yes
			Marker		Yes
			Repeat Mode		No
			Volume+		Yes
			Volume-		Yes
			Repeat A-B		Yes
			Zoom/ Quick View		Yes
			Mute		Yes
			Sleep		Yes
			Jump		Yes
			Text/Mix/TV		Yes
			Search+		No
			Search+ / Sub Page		Yes
			Search-		No

			Channel Down		Yes
			Volume Up		Yes
			Volume Down		Yes
			Play		Yes
			Stop		Yes
			Skip+/Search+		Yes
			Skip-/Search-		Yes
			Open/Close		Yes
			Still/Pause		No
			Main Power SW		Yes
		Indicator	Power		No
			Stand-by		Yes (Red)
			On Timer		No
		Terminals	Front	Video Input	RCA x 1
				Audio Input	RCA x 2
				Other Terminal	Headphone (Stereo & Mono. 3.5mm)
			Rear	Video Input	No
				Audio Input	No
				Video Output	No
				Audio Output	No
				Digital Audio Output	Coaxial (DVD Only)
				Euro Scart	1-SCART
				Diversity	No
				DC Jack 12V(Center +)	No
				VHF/UHF Antenna Input	DIN type
G-17	Set Size			Approx. W x D x H (mm)	362 x 365 x 382
G-18	Weight			Net (Approx.)	11.0kg (24.3lbs)
				Gross (Approx.)	12.5kg (27.6lbs)
G-19	Carton	Master Carton			No
				Content	-
				Material	-
				Dimensions W x D x H(mm)	-
				Description of Origin	-
		Gift Box			Yes
				Material	Double/Full Color
				Dimensions W x D x H(mm)	423 x 447 x 443
				Design	As per Buyer's
				Description of Origin	No
		Drop Test		Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	62
		Container Stuffing(40' container)			700 Sets
G-20	Material	Cabinet	Front		PS 94HB
			Rear		PS 94V0 DECABROM
			Jack Panel		-
		PCB	Non-Halogen		Yes
			Eyelet		Yes
G-21	Environment	Pb Free	Lead-free Solder		No
			Other		No
		Cd Free			No

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 4 screws ①.
2. Remove the screw ② which are used for holding the Back Cabinet.
3. Remove the AC cord from the AC cord hook ③.
4. Remove the Back Cabinet in the direction of arrow.

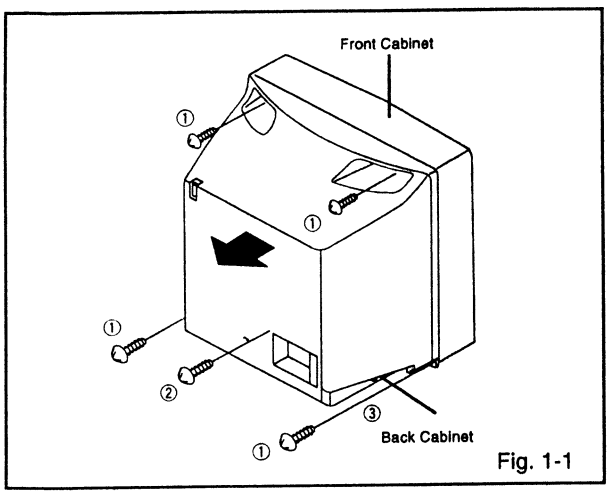


Fig. 1-1

1-2: CRT PCB (Refer to Fig. 1-2)

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap. (Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connector: (CP801 and CP803B).
3. Remove the CRT PCB in the direction of arrow.

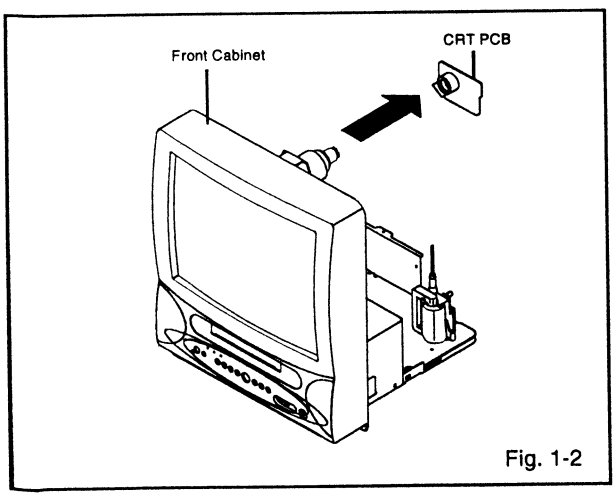


Fig. 1-2

1-3: AV PCB/DVD BLOCK (Refer to Fig. 1-3)

1. Remove the screw ①.
2. Remove the screw ②.
3. Disconnect the following connectors: (CP301, CP302, CP402, CP3801 and CP3802).
4. Remove the AV PCB/DVD Block in the direction of arrow.

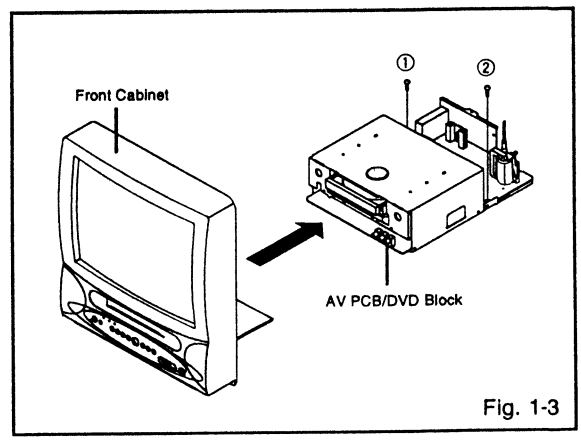


Fig. 1-3

1-4: DVD BLOCK (Refer to Fig. 1-4)

1. Remove the 13 screws ①.
2. Remove the Top Shield in the direction of arrow (A).
3. Disconnect the following connectors: (CP8001 and CP8002).
4. Remove the 4 screws ②.
5. Remove the DVD Block in the direction of arrow (B).
6. Remove the 2 screws ③.
7. Remove the Jack Shield.
8. Remove the AV PCB in the direction of arrow (C).

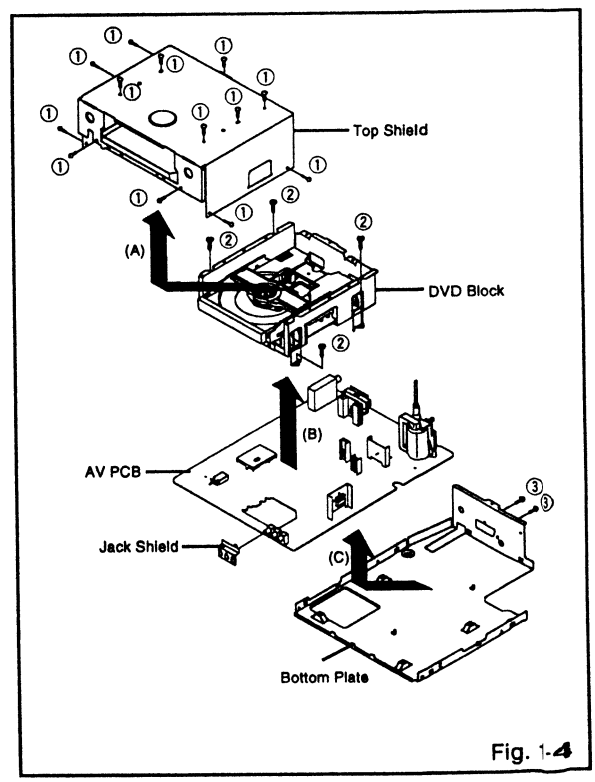


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

2-1: TRAY (Refer to Fig. 2-1-A)

1. Set the Tray opened. **(Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)**
2. Unlock the support ① and remove the Tray.

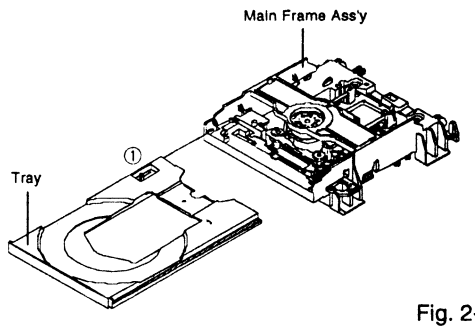


Fig. 2-1-A

NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 2-1-B so that the each markers are met.

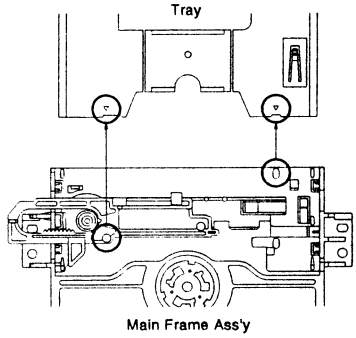


Fig. 2-1-B

2-2: MAIN CHASSIS ASS'Y (Refer to Fig. 2-2-A)

1. Remove the Main Chassis Ass'y from the Insulator (R).
2. Unlock the support ①.
3. Remove the Main Chassis Ass'y.

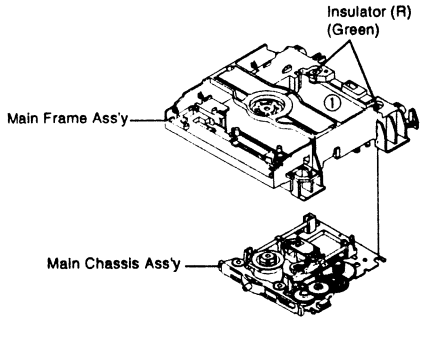


Fig. 2-2-A

NOTE

1. In case of the Main Chassis Ass'y, install it from (1) to (6) in order. **(Refer to Fig. 2-2-B)**

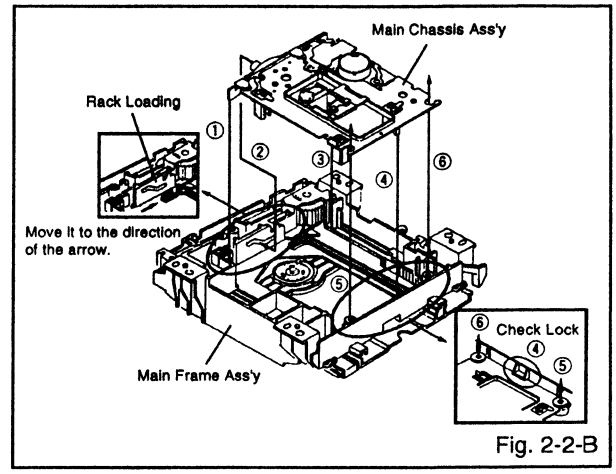


Fig. 2-2-B

2-3: RACK LOADING/MAIN GEAR/ RACK LOADING SPRING (Refer to Fig. 2-3)

1. Press down the catcher ① and slide the Rack Loading.
2. Remove the Rack Loading, Rack Loading Spring and Main Gear.
3. Remove the Rack Loading, Rack L Spring and Main Gear.

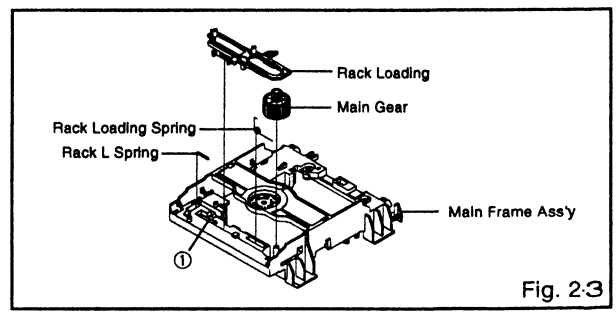


Fig. 2-3

2-4: CLAMPER ASS'Y/INSULATOR(R)/LEVER SWITCH (Refer to Fig. 2-4-A)

1. Remove the screw ①.
2. Remove the Lever Switch.
3. Remove the 2 Insulator (R).
4. Press the Clamper and rotate the Clamper Plate clockwise, then unlock the 3 supports ②.
5. Remove the Clamper Plate, Clamper Magnet and Clamper.

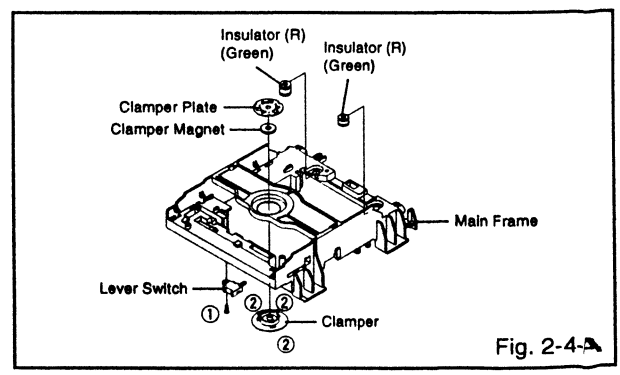


Fig. 2-4-A

DISASSEMBLY INSTRUCTIONS

1-5: DVD PCB/DVD DECK (Refer to Fig. 1-5)

1. Make the short circuit on the position as shown **Fig. 1-5** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Disconnect the following connectors: (CP2601, CP2602 and CP2603).
3. Remove the 4 screws ①.
4. Remove the DVD Deck in the direction of arrow (A).
5. Remove the 4 screws ②.
6. Remove the DVD PCB in the direction of arrow (B).

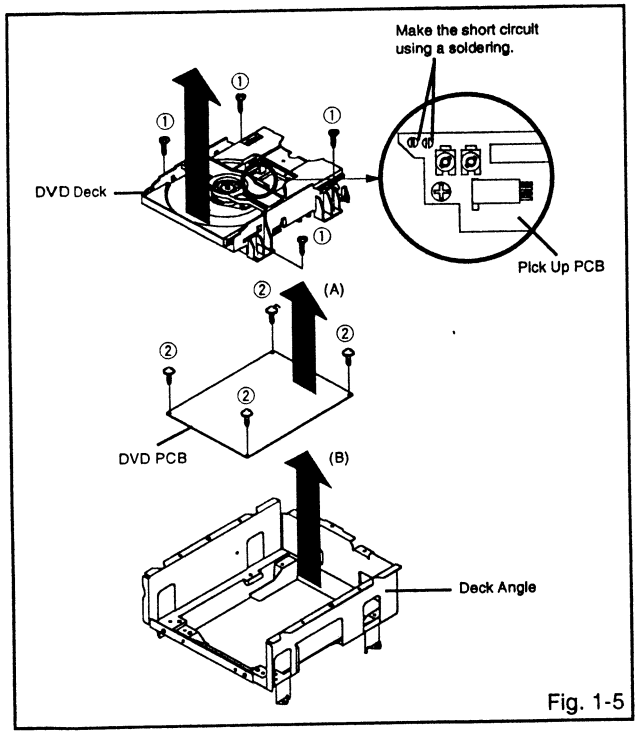


Fig. 1-5

NOTE

When the installation of the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

DISASSEMBLY INSTRUCTIONS

NOTE

1. When installing the Clamper Magnet, install it with the green face up.
2. When installing the wire of the Lever Switch, install it correctly as Fig. 2-4-B.
3. When installing the Lever Switch, install it correctly as Fig. 2-4-C.
4. In case of the Lever Switch installation, hook the wire on the Main Frame as shown Fig. 2-4-D.

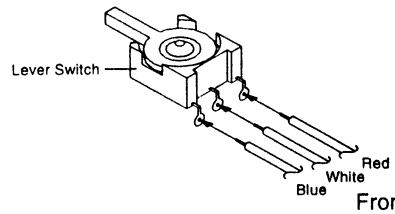


Fig. 2-4-B

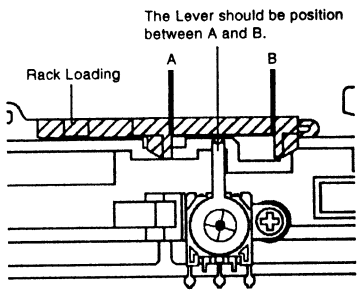


Fig. 2-4-C

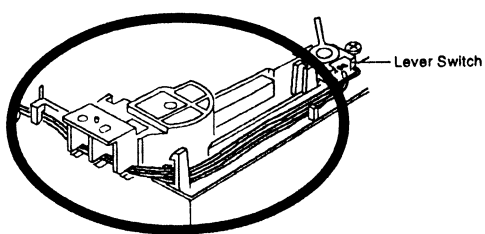


Fig. 2-4-D

2-5: TRAVERSE HOLDER/INSULATOR (F) (Refer to Fig. 2-5-A)

1. Remove the Traverse Holder.
2. Remove the 2 Insulator (F).

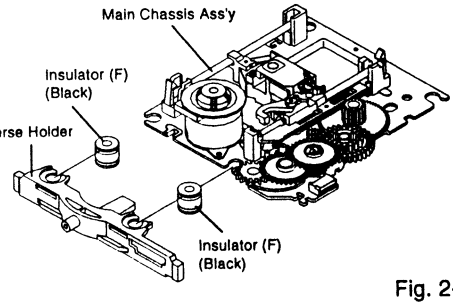


Fig. 2-5-A

NOTE

1. After the installing of the Traverse Holder, check if the wire is like Fig. 2-5-B.

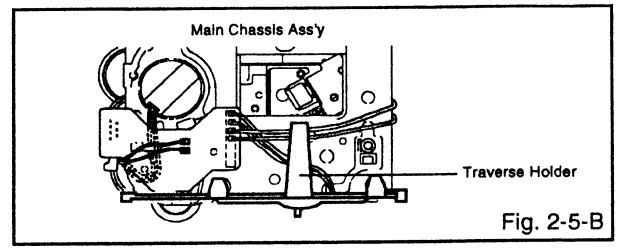


Fig. 2-5-B

2-6: SWITCH PCB ASS'Y (Refer to Fig. 2-6-A)

1. Remove the screw ①.
2. Remove the Switch PCB Ass'y.

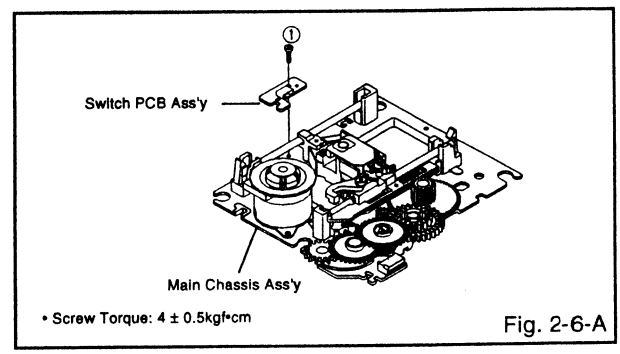


Fig. 2-6-A

NOTE

1. When installing the wire of the Switch PCB, install it correctly as Fig. 2-6-B.

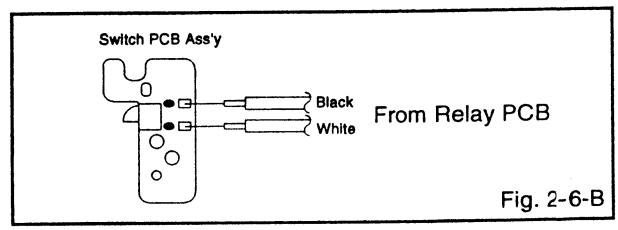


Fig. 2-6-B

2-7: RACK FEED ASS'Y (Refer to Fig. 2-7-A)

1. Remove the screw ①.
2. Remove the Rack Feed 1A Spring, Rack Feed 1A/2A and Rack Feed Lever.

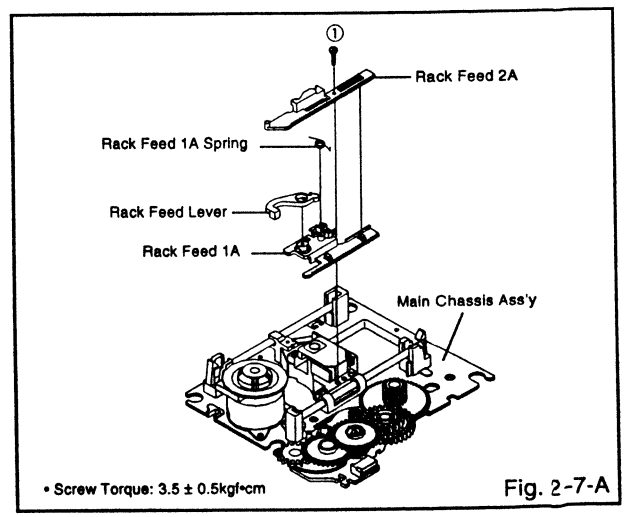


Fig. 2-7-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. After the assembly of the Rack Feed, check if the Rack Feed 1/2 is moving smoothly. **(Refer to Fig. 2-7-B)**
2. In case of the Rack Feed Ass'y installation, install correctly as Fig. 2-7-C.

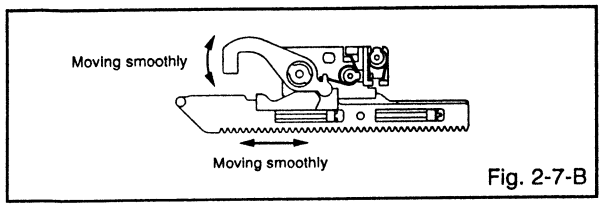


Fig. 2-7-B

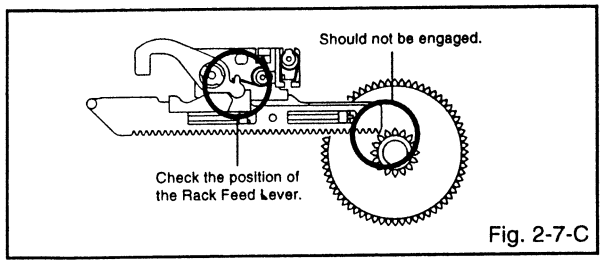


Fig. 2-7-C

2-8: RELAY PCB ASS'Y (Refer to Fig. 3-8-A)

1. Remove the screw ①.
2. Remove the Relay PCB Ass'y.

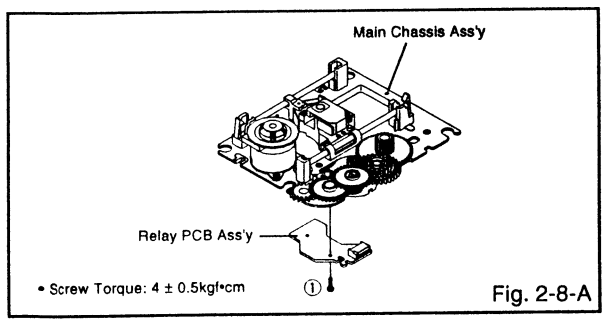


Fig. 2-8-A

NOTE

1. When installing the wire of the Relay PCB, install it correctly as Fig. 2-8-B.

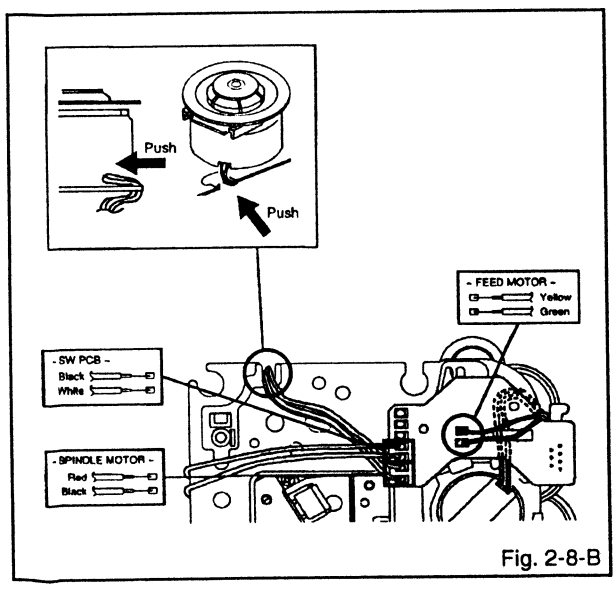


Fig. 2-8-B

2-9: GEAR (Refer to Fig. 3-9-A)

1. Unlock the support ①.
2. Remove the Middle Gear 1/2/3, Idler Gear and Feed Gear.

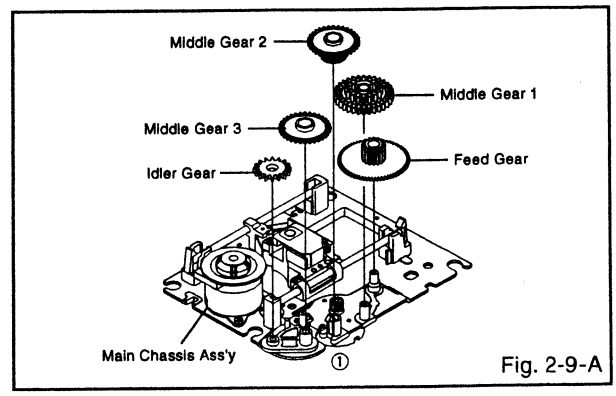


Fig. 2-9-A

NOTE

1. In case of the Idler Gear installation, install correctly as Fig. 2-9-B.
2. When installing the Middle Gear 2, check if the Middle Gear 2 is locked correctly as Fig. 2-9-C.

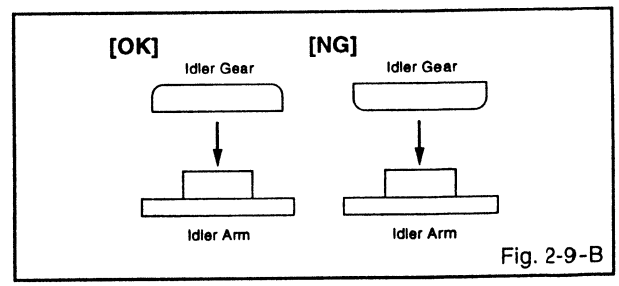


Fig. 2-9-B

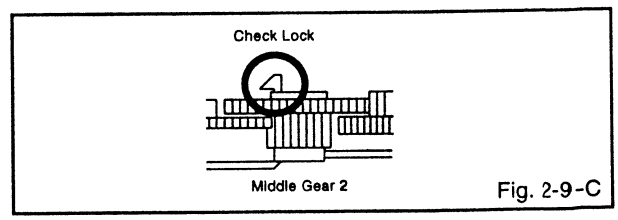


Fig. 2-9-C

2-10: IDLER ARM 2 (Refer to Fig. 2-10-A)

1. Remove the Idler Arm 2.

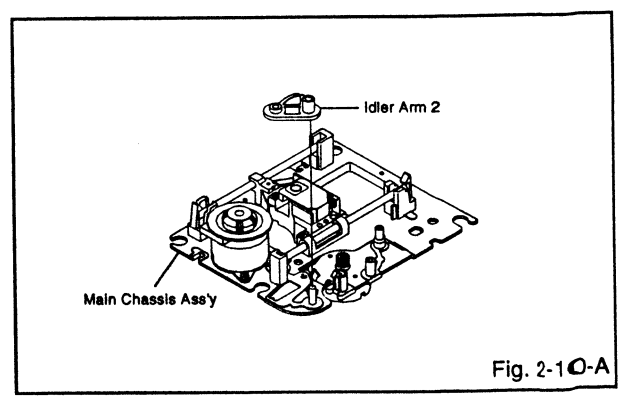
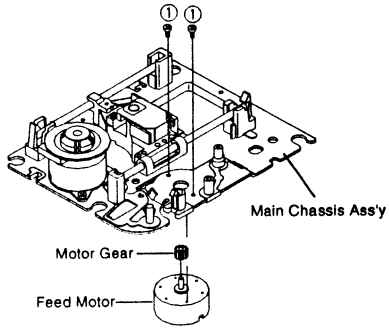


Fig. 2-10-A

DISASSEMBLY INSTRUCTIONS

2-11: FEED MOTOR (Refer to Fig. 2-11-A)

1. Remove the 2 screws ①.
2. Remove the Feed Motor.
3. Remove the Motor Gear.



• Screw Torque: 1 ± 0.5kgf•cm

Fig. 2-11-A

NOTE

1. In case of the Motor Gear installation, check if the value of the Fig. 2-11-B is correct.
2. When installing the Feed Motor, check if the cable is positioned as Fig. 2-11-C.

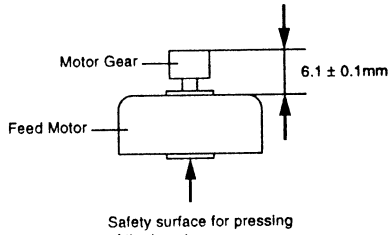


Fig. 2-11-B

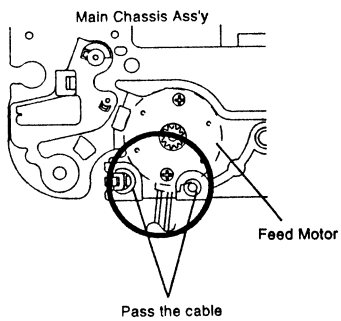


Fig. 2-11-C

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

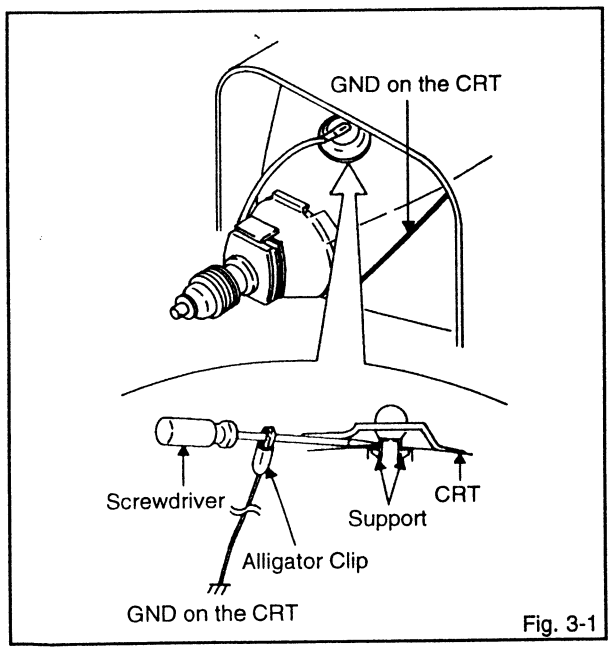


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 3-2.)**

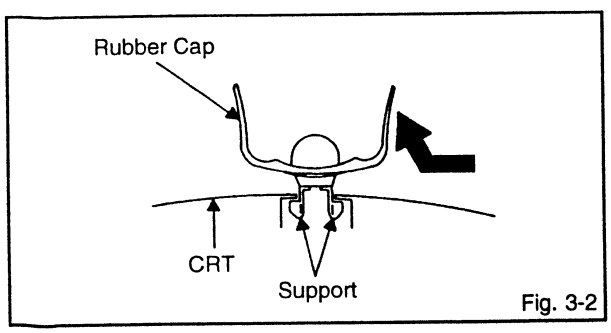


Fig. 3-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 3-3.)**

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

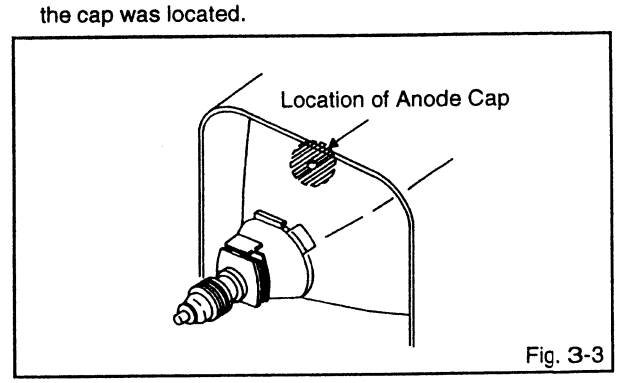


Fig. 3-3

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

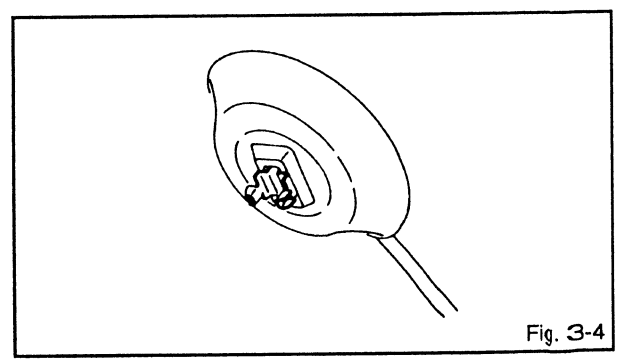


Fig. 3-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 3-5.**

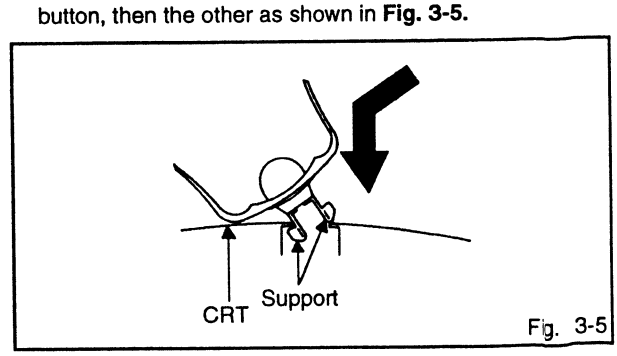


Fig. 3-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

DISASSEMBLY INSTRUCTIONS

4. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 4-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

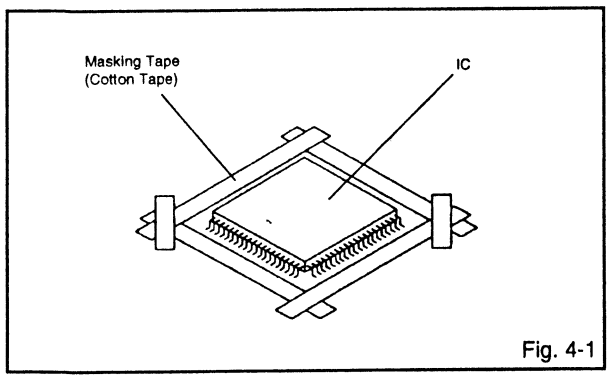


Fig. 4-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 4-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

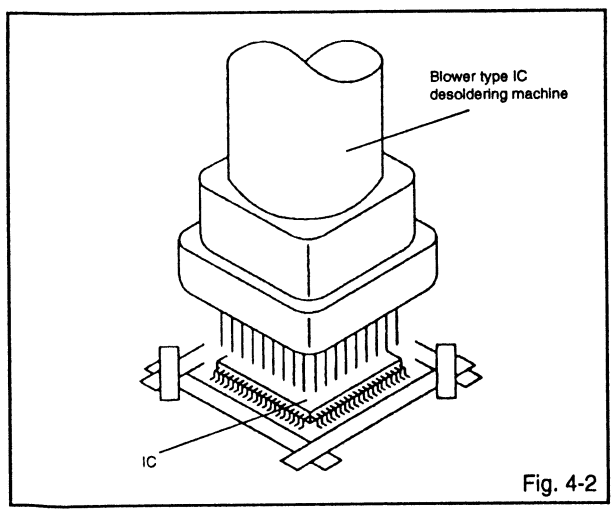


Fig. 4-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 4-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

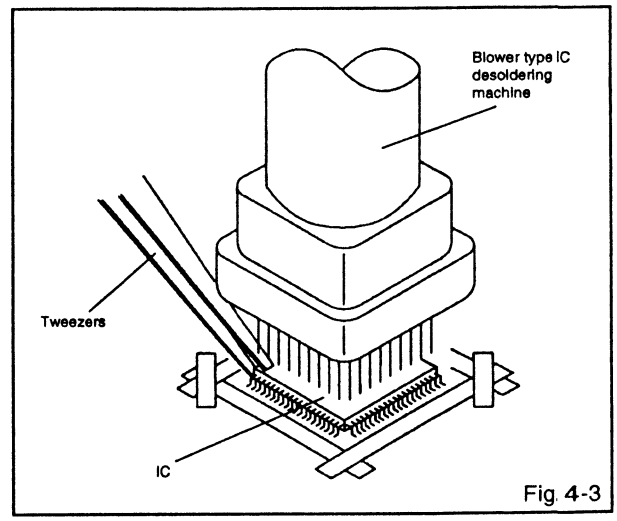


Fig. 4-3

4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 4-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

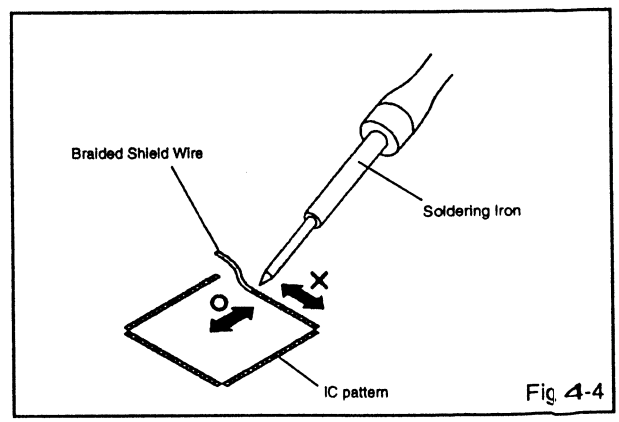


Fig. 4-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 4-5.)**

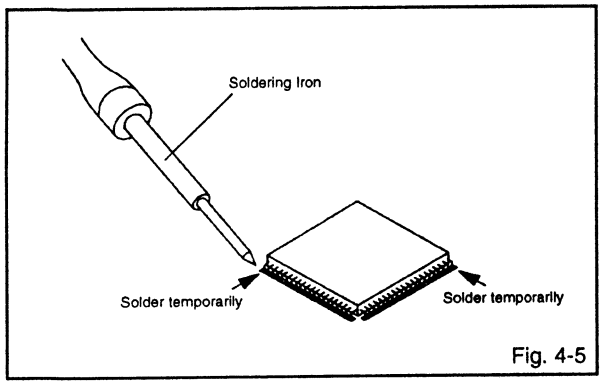


Fig. 4-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 4-6.)**

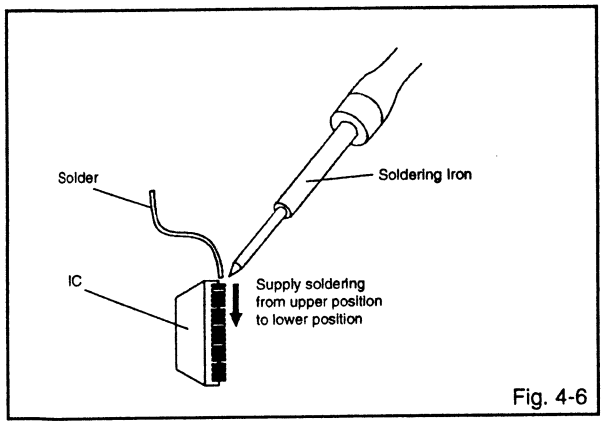


Fig. 4-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 4-7.)**

NOTE

Do not absorb the solder to excess.

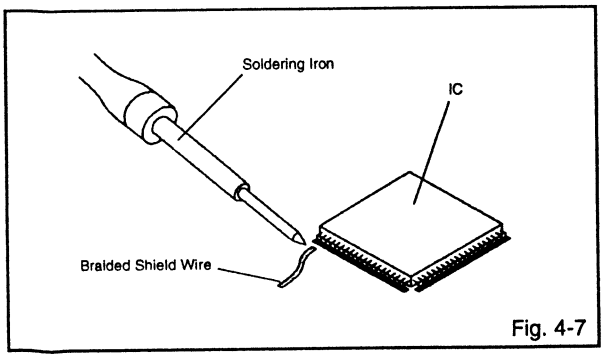


Fig. 4-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 4-8.)**

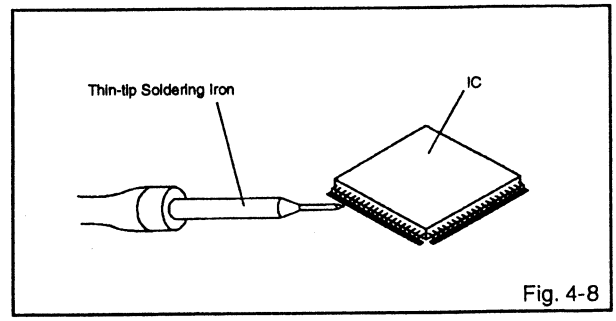


Fig. 4-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

NOTE

When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than a standard time (second).

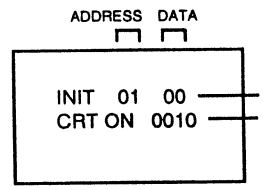
Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	1	1	Initialization of the factory on TV. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	4	1	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work without the setting of DVD disc at DVD mode. While pressing the Remocon Key for more than the Standard Time, press the Set Key simultaneously.
VOL. (-) MIN	6	1	POWER ON total hours are displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED" Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	9	1	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	7	3	Releasing of PARENTAL LOCK. Refer to the "PARENTAL CONTROL - RATING LEVEL". NOTE: The function will only work without the setting of DVD disc at DVD mode. While pressing the Remocon Key for more than the Standard Time, press the Set Key simultaneously.

CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.



Initial setting content of MEMORY IC.
POWER ON total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)

FIG. 1

WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: No need setting for after INI 16 due to the adjustment value.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	---	00	01	02	00	B8	90	B1	41	01	60	0C	13	01	00	02
10	50	00	00	00	50	42	36	---	---	---	---	---	---	---	---	---

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.

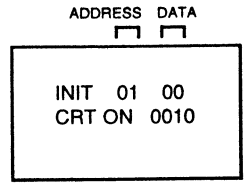


FIG. 1

3. ADDRESS is now selected and should "blink". Using the VOL. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using VOL. UP/DOWN button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input. **After the data input, set to the initializing of shipping.**
9. Turn POWER on.
10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 1 second.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than a standard time (second).

Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	1	1	Initialization of the factory on TV. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	4	1	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work without the setting of DVD disc at DVD mode. While pressing the Remocon Key for more than the Standard Time, press the Set Key simultaneously.
VOL. (-) MIN	6	1	POWER ON total hours are displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED" Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	9	1	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	7	3	Releasing of PARENTAL LOCK. Refer to the "PARENTAL CONTROL - RATING LEVEL". NOTE: The function will only work without the setting of DVD disc at DVD mode. While pressing the Remocon Key for more than the Standard Time, press the Set Key simultaneously.

CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.

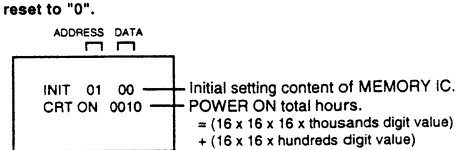

ADDRESS DATA
INIT 01 00
CRT ON 0010
Initial setting content of MEMORY IC.
POWER ON total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)

FIG. 1

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease **(YG6260M)** on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

On-Screen Display Adjustment

1. Set the volume level to minimum.
2. Press the VOL. DOWN button on the set and the channel button **(9)** on the remote control for more than 1 second to display adjustment mode on the screen as shown in **Fig. 1-1**.

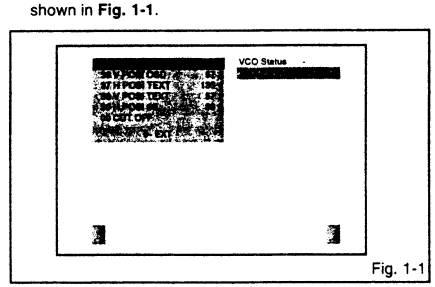


Fig. 1-1

3. Use the Channel UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2**.
4. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	CUT OFF	20	TINT
01	RF AGC	21	SHARP
02	AGC GAIN	22	CONT CENT
03	R DRIVE	23	CONT MAX
04	R CUTOFF	24	CONT MIN
05	G DRIVE	25	COLOR CENT
06	G CUTOFF	26	COLOR MAX
07	B DRIVE	27	COLOR MIN
08	H POSI 50	28	M R CUT OFF
09	V POSI 50	29	M G CUT OFF
10	V POSI 60	30	M B CUT OFF
11	V SIZE 50	31	CVBS OUT
12	V SIZE 60	32	APR THR
13	VCO COARSE	33	BELL FILTER
14	VCO FINE	34	BANDPASS
15	---	35	H POSI OSD
16	---	36	V POSI OSD
17	BRIGHT CENT	37	H POSI TXT
18	BRIGHT MAX	38	V POSI TXT
19	BRIGHT MIN	39	H POSI 60

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Connect the digital voltmeter to **TP401**.
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Adjust the **VR3801** until the digital voltmeter is 135 ±0.5V.

2-2: VCO (AFT)

1. Place the set with Aging Test for more than 10 minutes.
2. Connect the oscillator (38.9MHz) to **TP101**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "VCO COARSE".
4. Press the VOL. UP/DOWN button on the remote control until the "OK" appear on the screen. If the "OK" is not displayed, select the "-" side on the changed from "+" to "-".
5. Press the CH UP button once to set to "VCO FINE" mode.
6. Press the VOL. UP/DOWN button on the remote control to select the 5 step down point from the upper limit on the "OK".
   (Example: In case of the "OK" point 30~41, select 36.)

2-3: RF AGC

1. Receive the UHF (63dB).
2. Place the set with Aging Test for more than 15 minutes.
3. Connect the digital voltmeter between the **pin 5 of CP101** and the **pin 1 of CP101**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "RF AGC".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.4 ± 0.05V.

2-4: FOCUS

1. Receive the monoscope pattern.
2. Turn the **Focus Volume** fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-5: HORIZONTAL POSITION

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(08)** on the remote control to select "H POSI 50".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the cross hatch signal of NTSC. (Audio Video Input)
6. Press the AV button on the remote control to set to the AV mode.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(39)** on the remote control to select "H POSI 60".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-6: VERITCAL POSITION

NOTE: Adjust after performing adjustments in section 2-5.

1. Receive the cross hatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select **"V POSI (50)"**.
4. Check if the step No. V.POSI (50) is "10".
5. Adjust the **VR402** until the horizontal line becomes fit to notch of the shadow mask.
6. Press the AV button on the remote control to set to the AV mode.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(10)** on the remote control to select "V POSI (60)".
8. Check if the step No. V.POSI (60) is "05".

2-7: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-7.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(11)** on the remote control to select "V SIZE 50".
4. Adjust by using the VOL. UP/DOWN button on the remote control so that the Up/Down OVER SCAN Quantity becomes equal to the Right/Left OVER SCAN Quantity.
5. Receive a broadcast and check if the picture is normal.
6. Receive the cross hatch signal of NTSC. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(12)** on the remote control to select "V SIZE 60".
9. Adjust by using the VOL. UP/DOWN button on the remote control so that the Up/Down OVER SCAN Quantity becomes equal to the Right/Left OVER SCAN Quantity.
10. Receive a broadcast and check if the picture is normal.

2-8: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-7. After the adjustment of Vertical Linearity, reconfirm the Vertical Position and Vertical Size adjustments.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR401** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-9: OSD HORIZONTAL

1. Using the remote control, set the brightness and contrast to normal position.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "H POSI OSD".
3. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-1)**

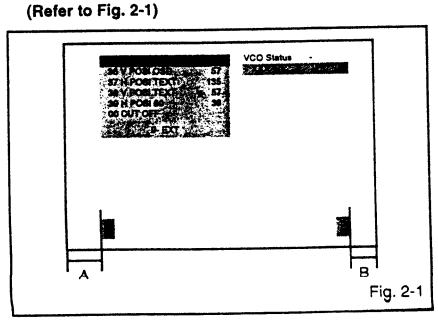


Fig. 2-1

2-10: CUT OFF

1. Set condition is AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Place the set with Aging Test for more than 15 minutes.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(00)** on the remote control to select "CUT OFF".
5. Adjust the **Screen Volume** until a dim raster is obtained.

2-11: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "R DRIVE".
5. Press the UP/DOWN button on the remote control to select the "R DRIVE", "G DRIVE", "M R CUT OFF" or "M G CUT OFF".
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the R DRIVE, G DRIVE, M R CUT OFF, and M G CUT OFF at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

2-12: BRIGHT CENTER

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRI CENT".
2. Press the VOL. UP/DOWN button on the remote control until the brightness step No. becomes "20".
3. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 1~2.
4. Press the DVD button on the remote control to set to the DVD mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRI CENT".
6. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV mode.

2-13: CONTRAST CENT

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CONT CENT".
4. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "22".
5. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 1~4.
6. Press the DVD button on the remote control to set to the DVD mode.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CONT CENT".
8. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV mode.

2-14: COLOR CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP803**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(25)** on the remote control to select "COL CENT".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 90 ± 5% of the white level. **(Refer to Fig. 2-2)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT SELECT button on the remote control to set to the AV mode. Then perform the above adjustments 2~6.
9. Press the DVD button on the remote control to set to the DVD mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(25)** on the remote control to select "COL CENT".
11. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV mode.

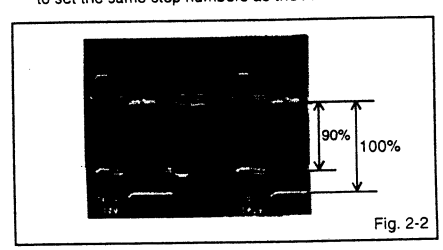


Fig. 2-2

2-15: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	STEP NO.
02	AGC GAIN	00
04	R CUTOFF	31
06	G CUTOFF	31
07	B DRIVE	45
18	BRIGHT MAX	30
19	BRIGHT MIN	05
20	TINT	31
21	SHARP	05
23	CONT MAX	50
24	CONT MIN	05
26	COLOR MAX	60
27	COLOR MIN	10
30	M B CUT OFF	100
31	CVBS OUT	20
32	APR THR	15
33	BELL FILTER	22
34	BANDPASS	00
36	V POSI OSD	57
37	H POSI TXT	135
38	V POSI TXT	57

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue color.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

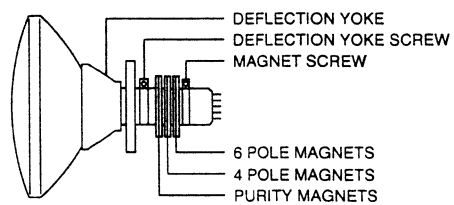


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

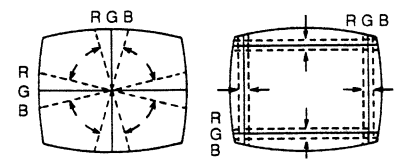
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

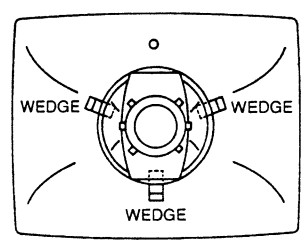
Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 3-2-a

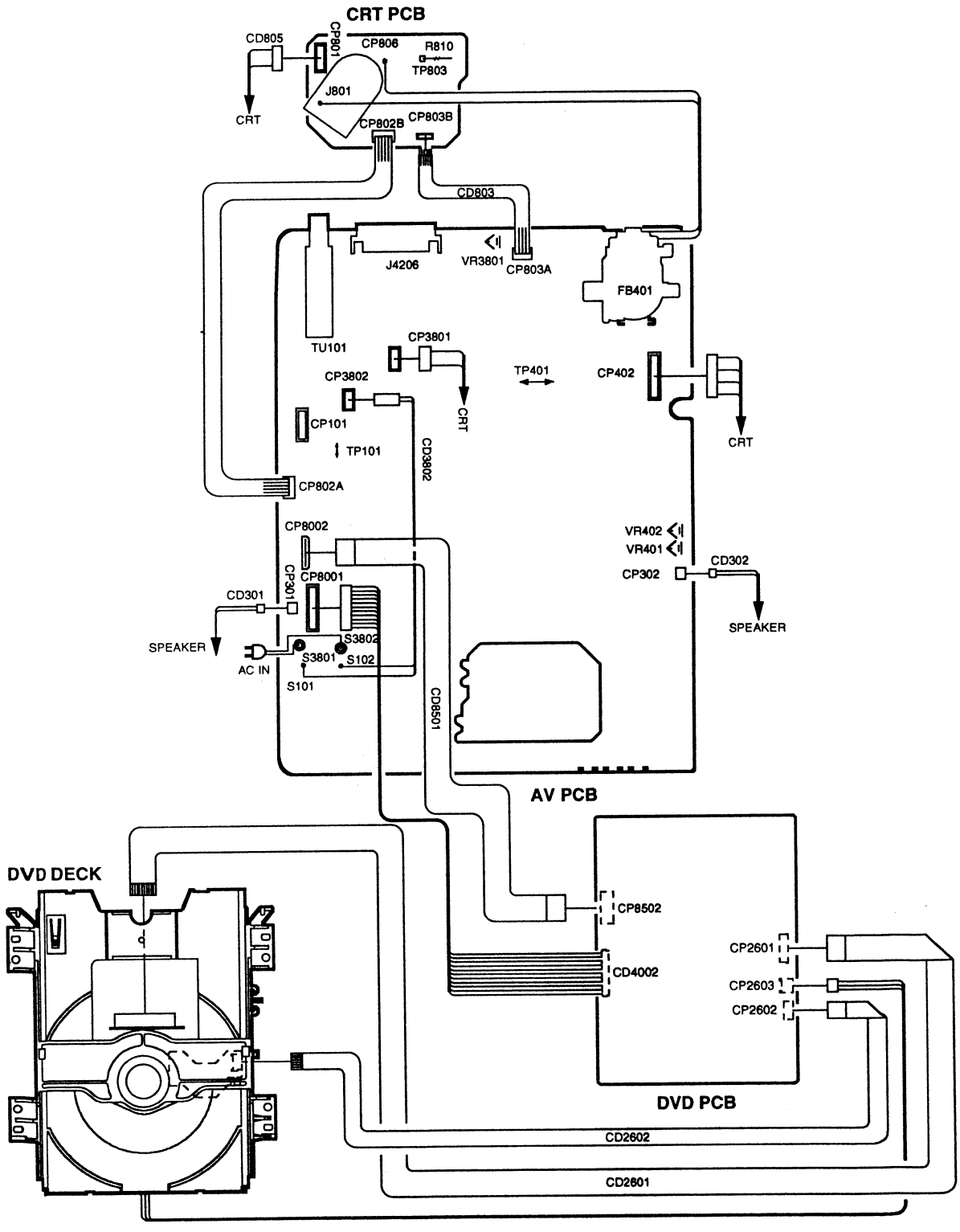


WEDGE POSITION

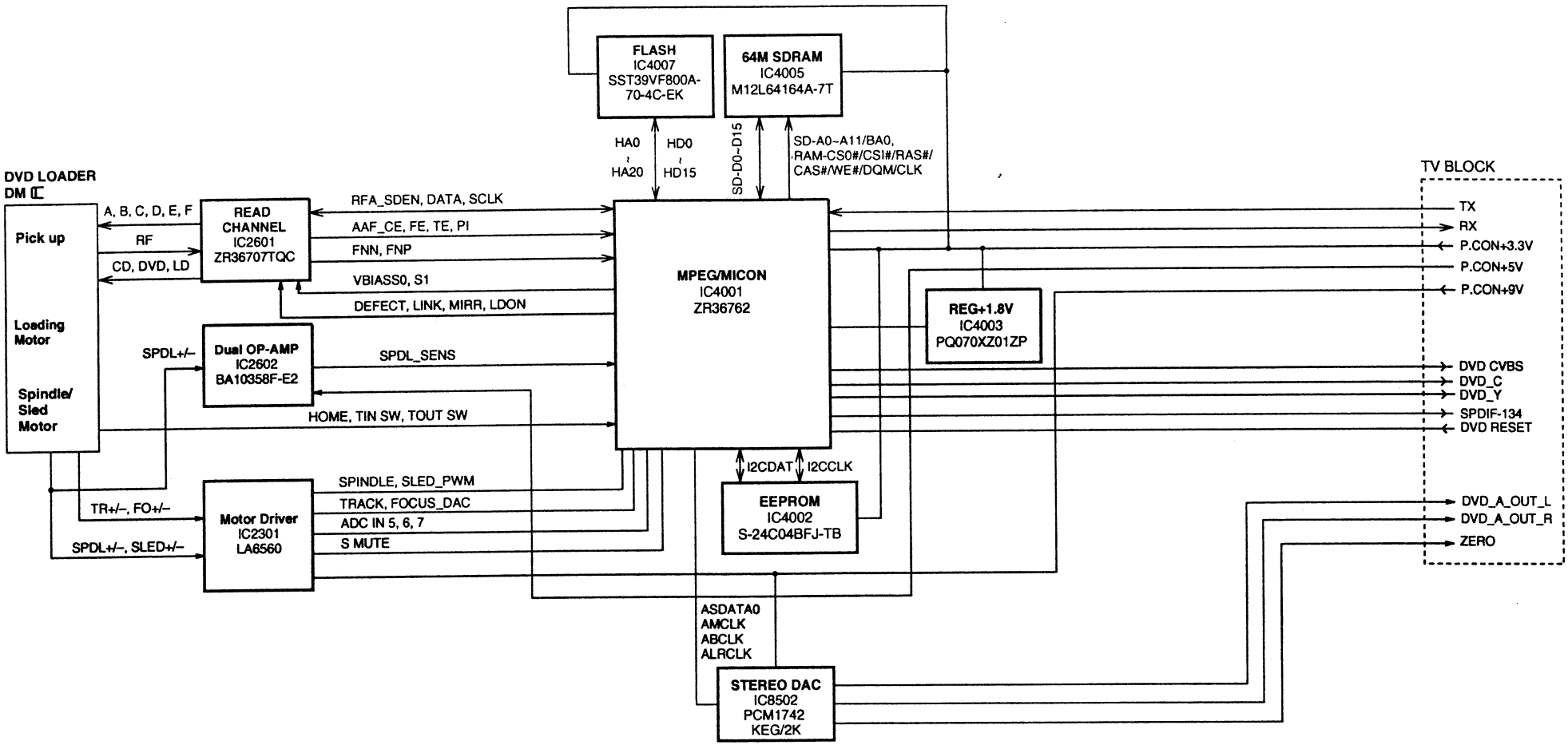
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)

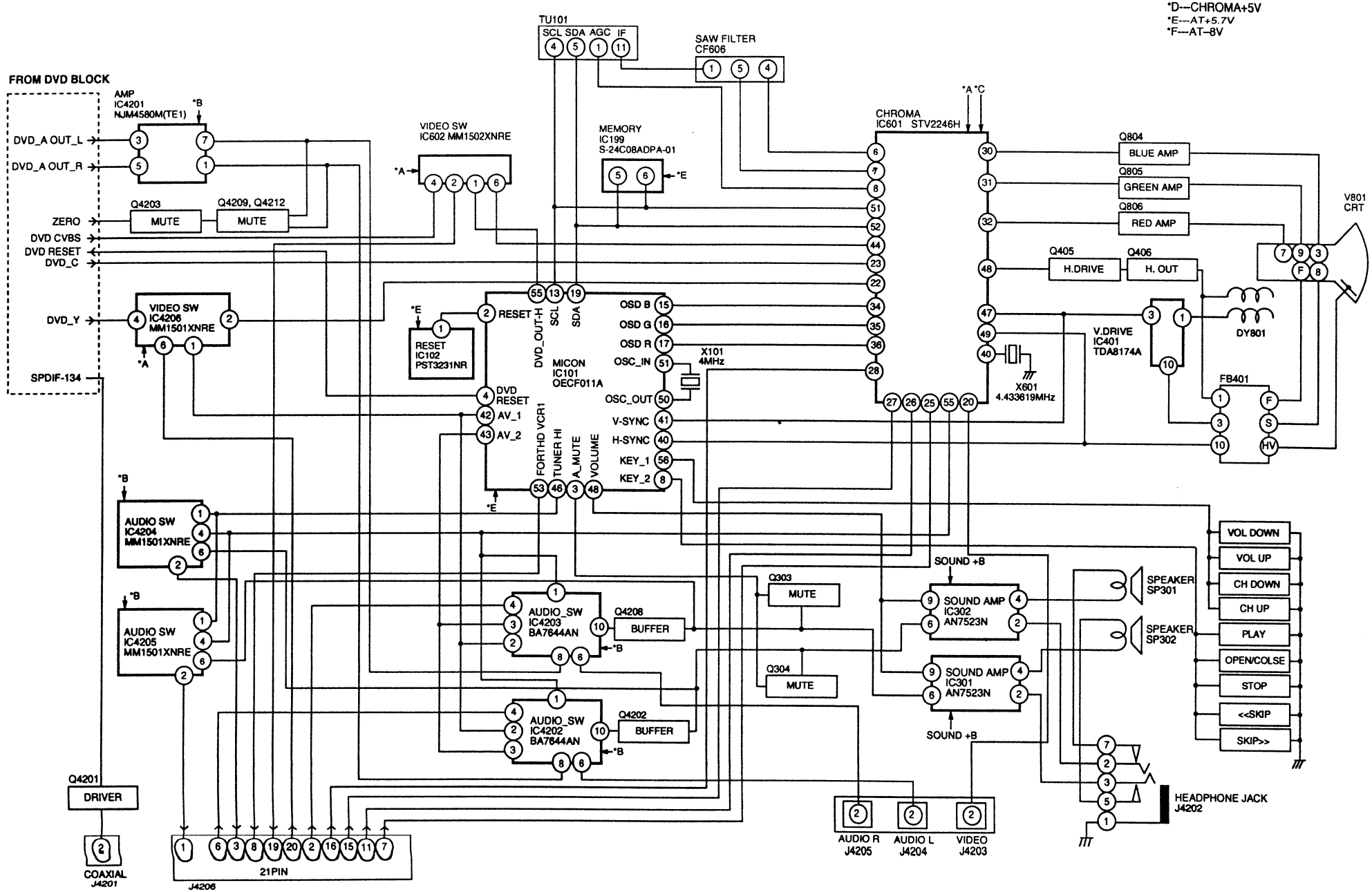


DVD BLOCK DIAGRAM

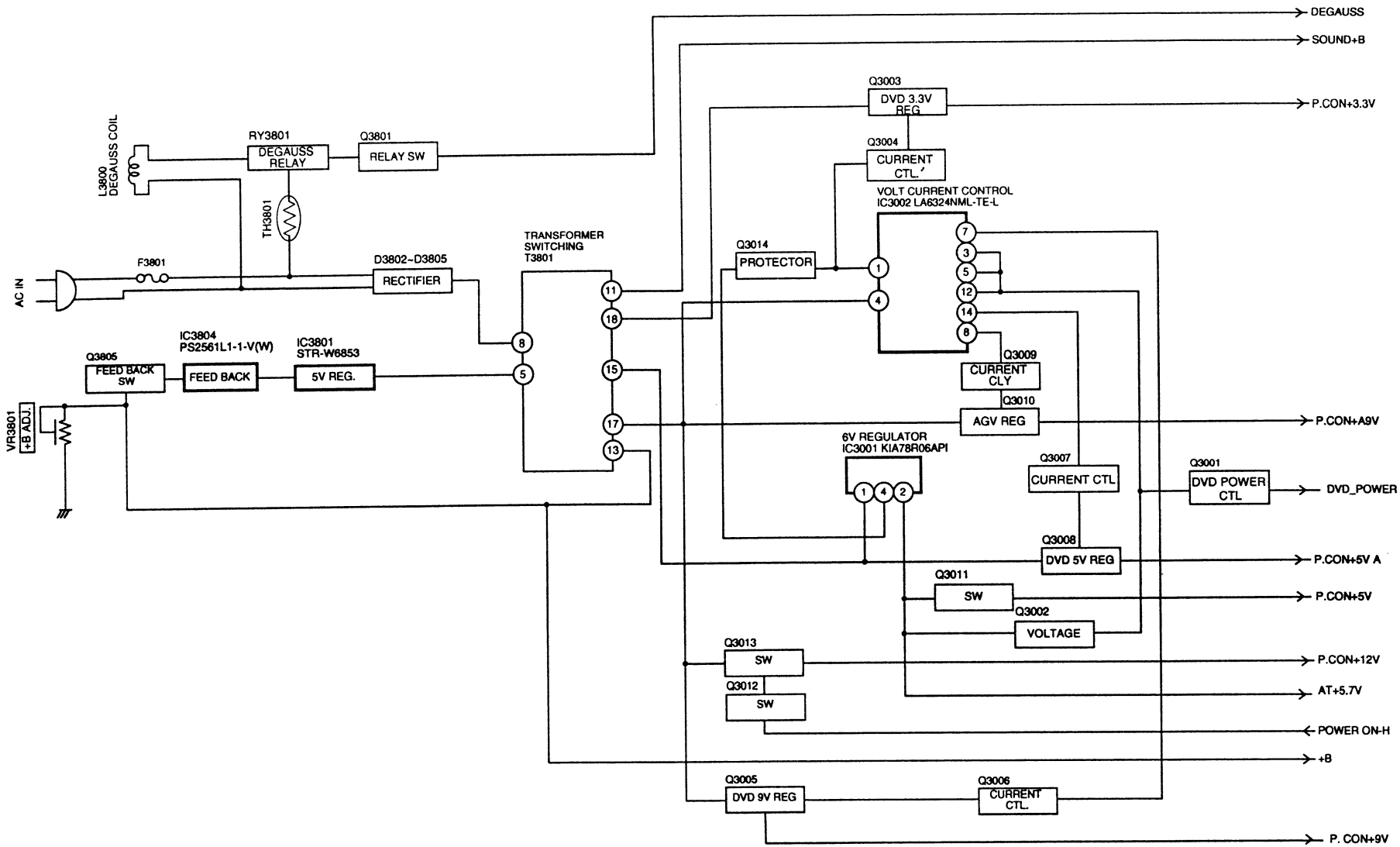


TV BLOCK DIAGRAM

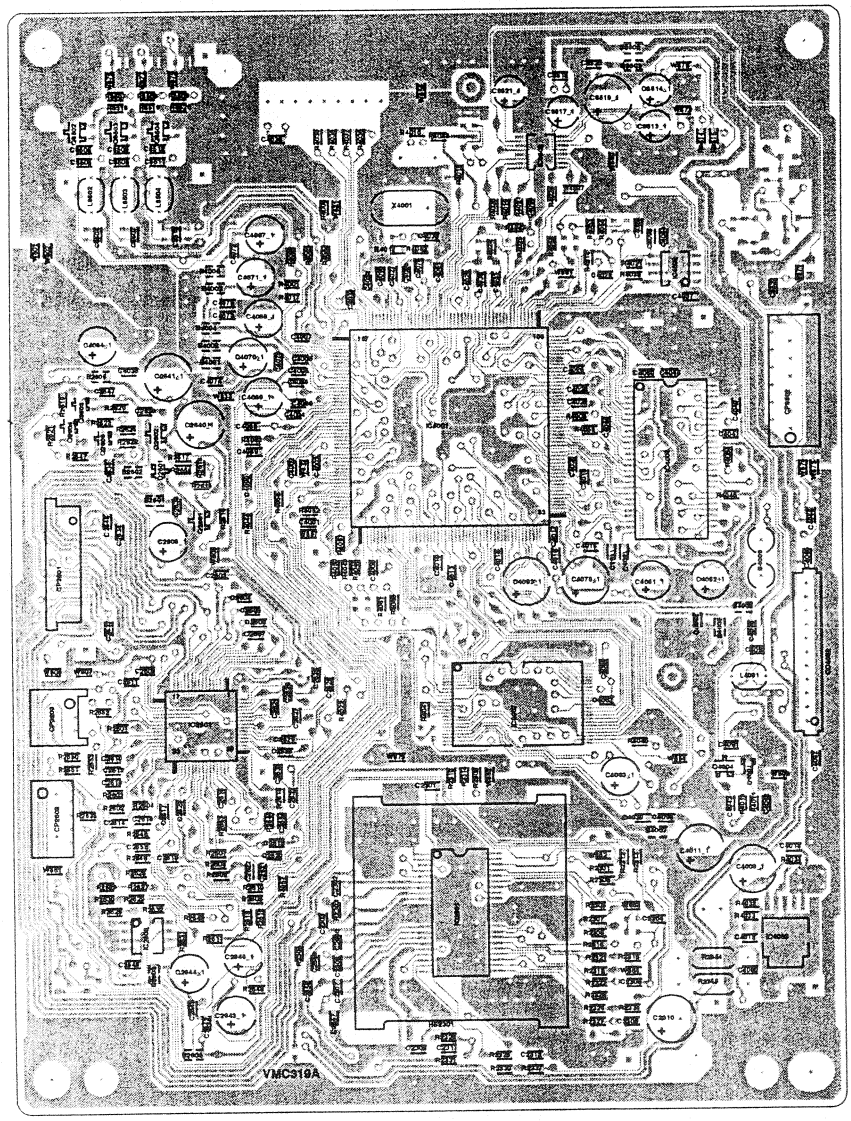
*A---P.CON+9V
*B---P.CON+12V
*C---P.CON+A5V
*D---CHROMA+5V
*E---AT+5.7V
*F---AT-8V



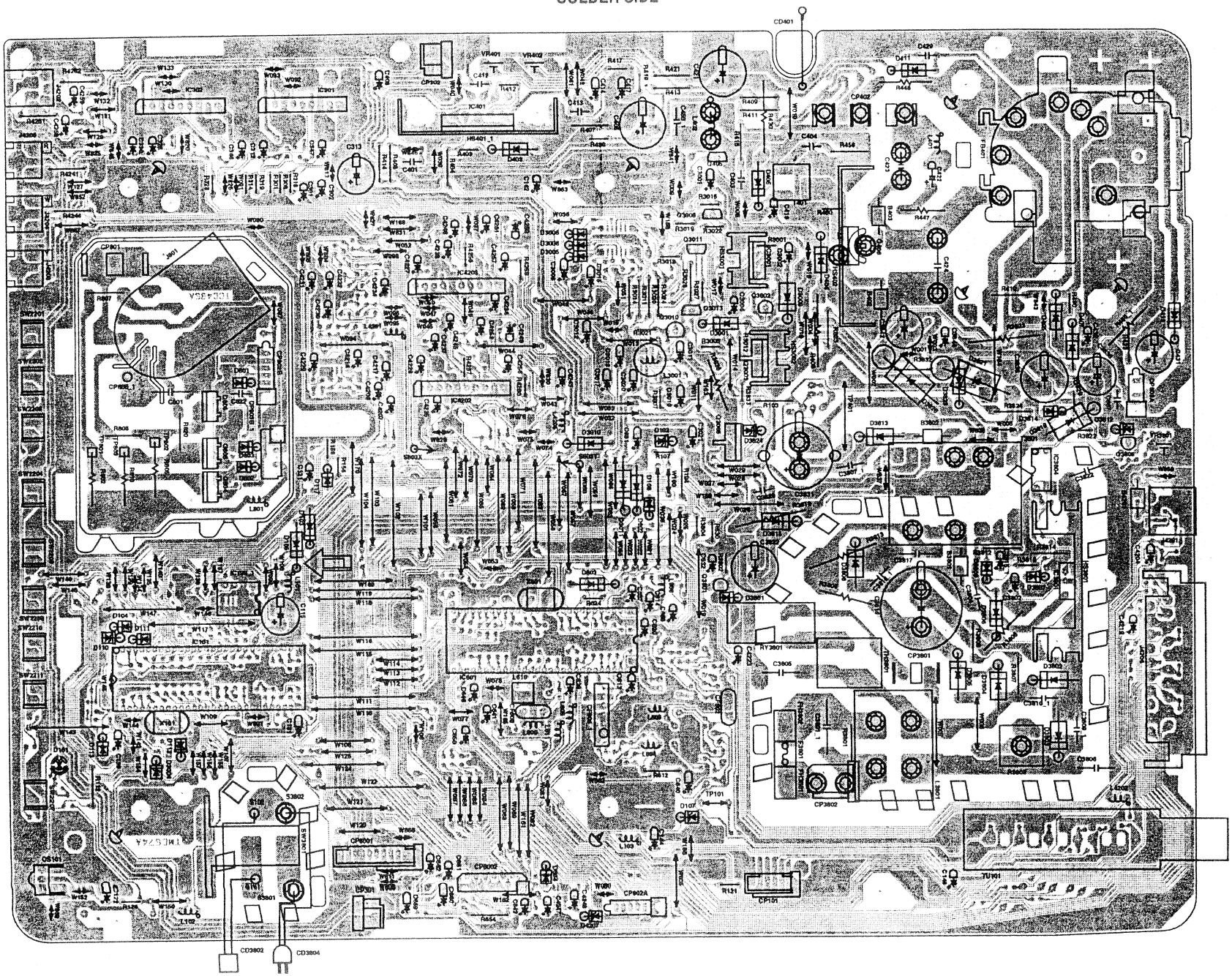
POWER BLOCK DIAGRAM



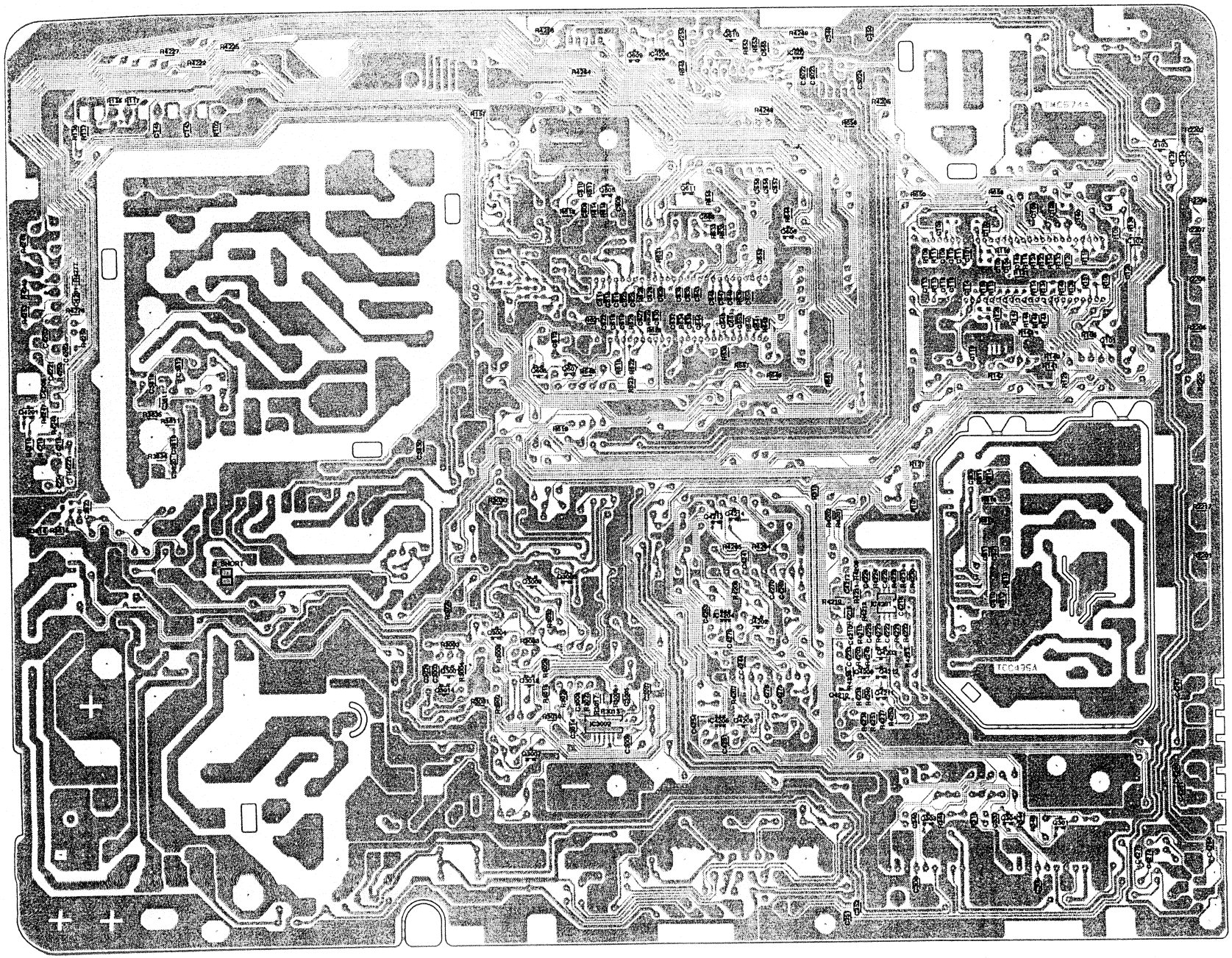
PRINT CIRCUIT BOARDS
DVD (TOP SIDE)



PRINTED CIRCUIT BOARDS
AV/CRT (INSERTED PARTS)
SOLDER SIDE

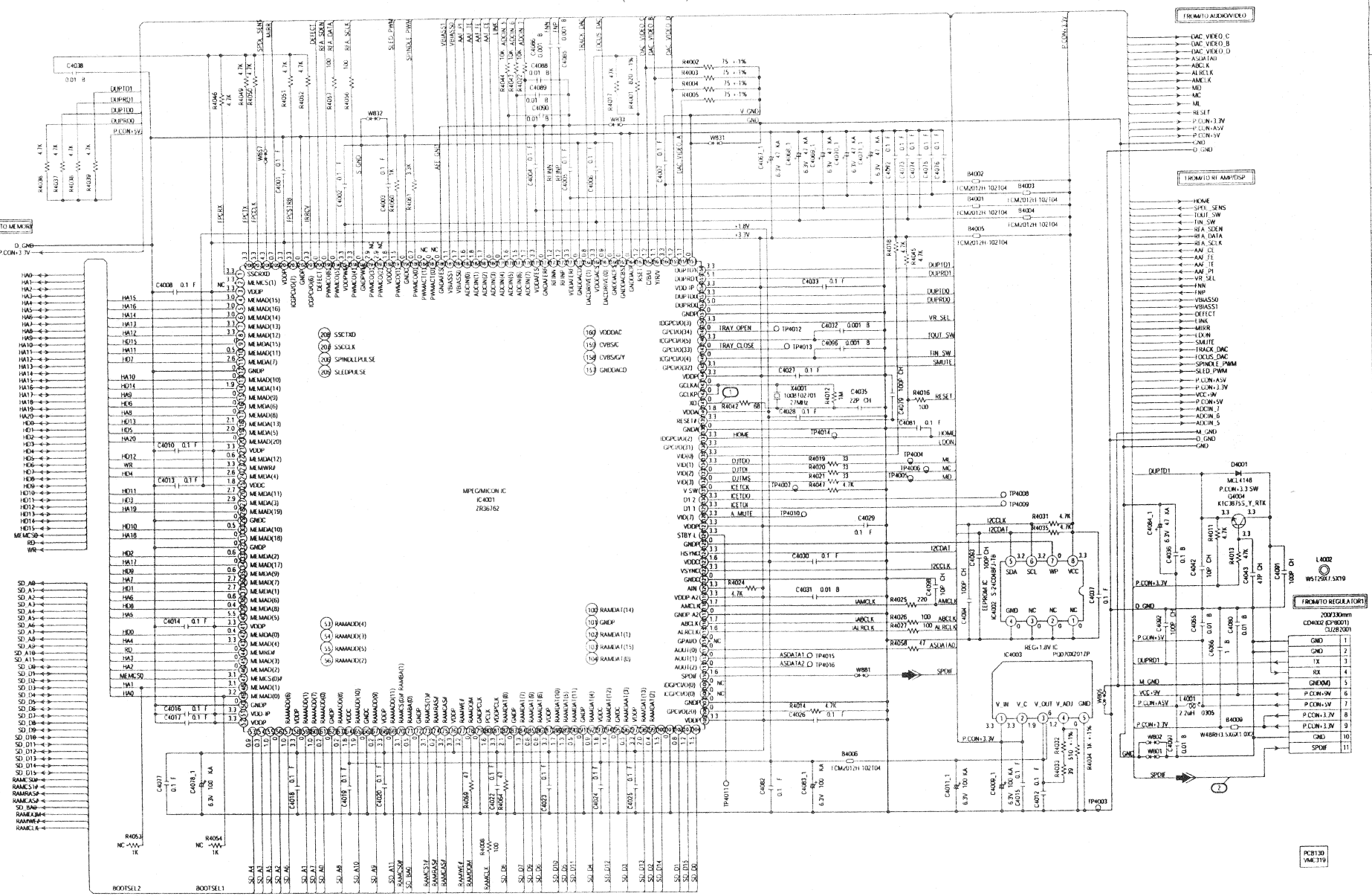


PRINTED CIRCUIT BOARDS
AV/CRT (CHIP MOUNTED PARTS)
SOLDER SIDE



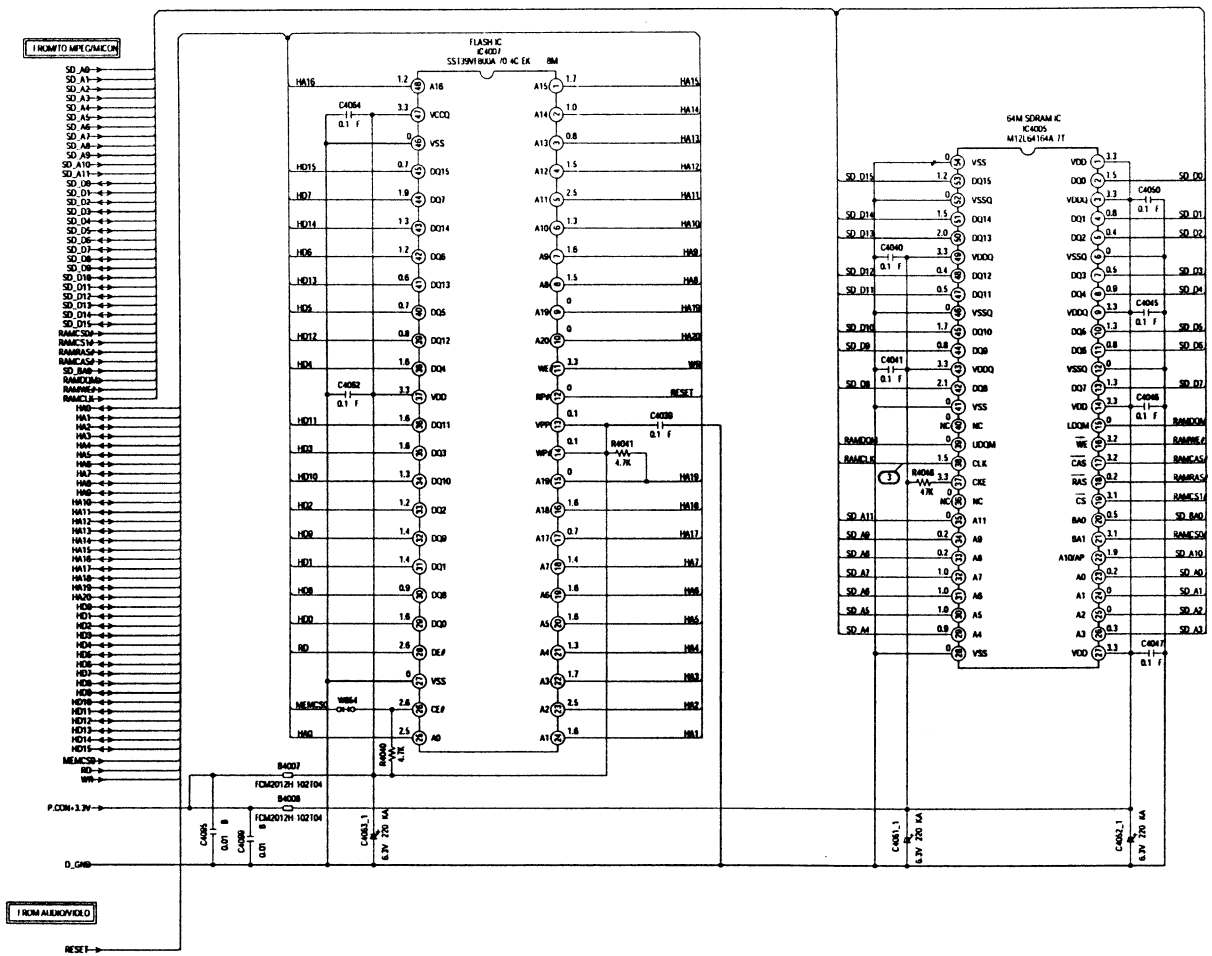
MPEG/MICON SCHEMATIC DIAGRAM

(DVD PCB)



G-1 G-2

MEMORY SCHEMATIC DIAGRAM
(DVD PCB)



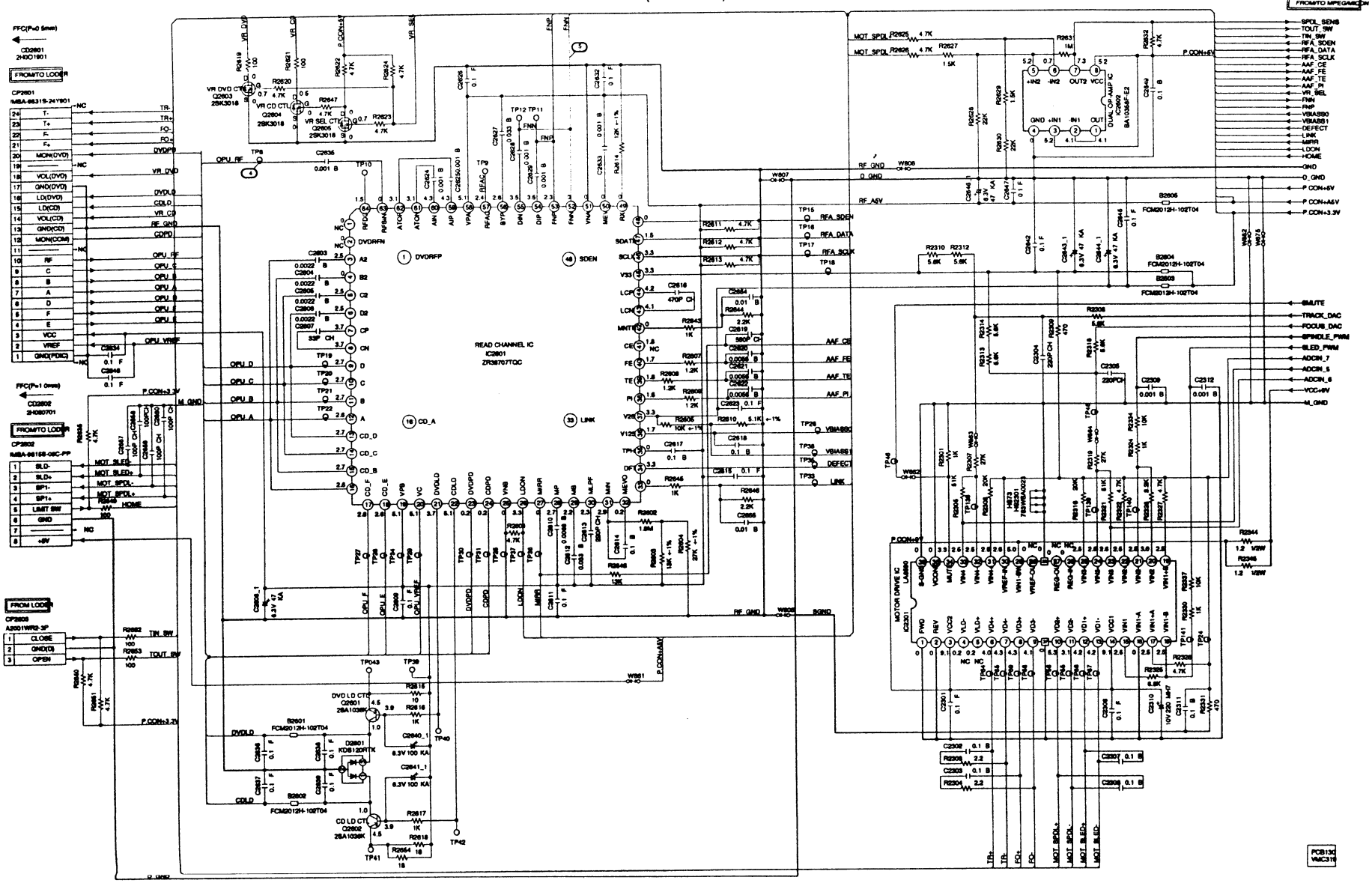
PCB130
VMC319

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

RF AMP/DSP SCHEMATIC DIAGRAM

(DVD PCB)

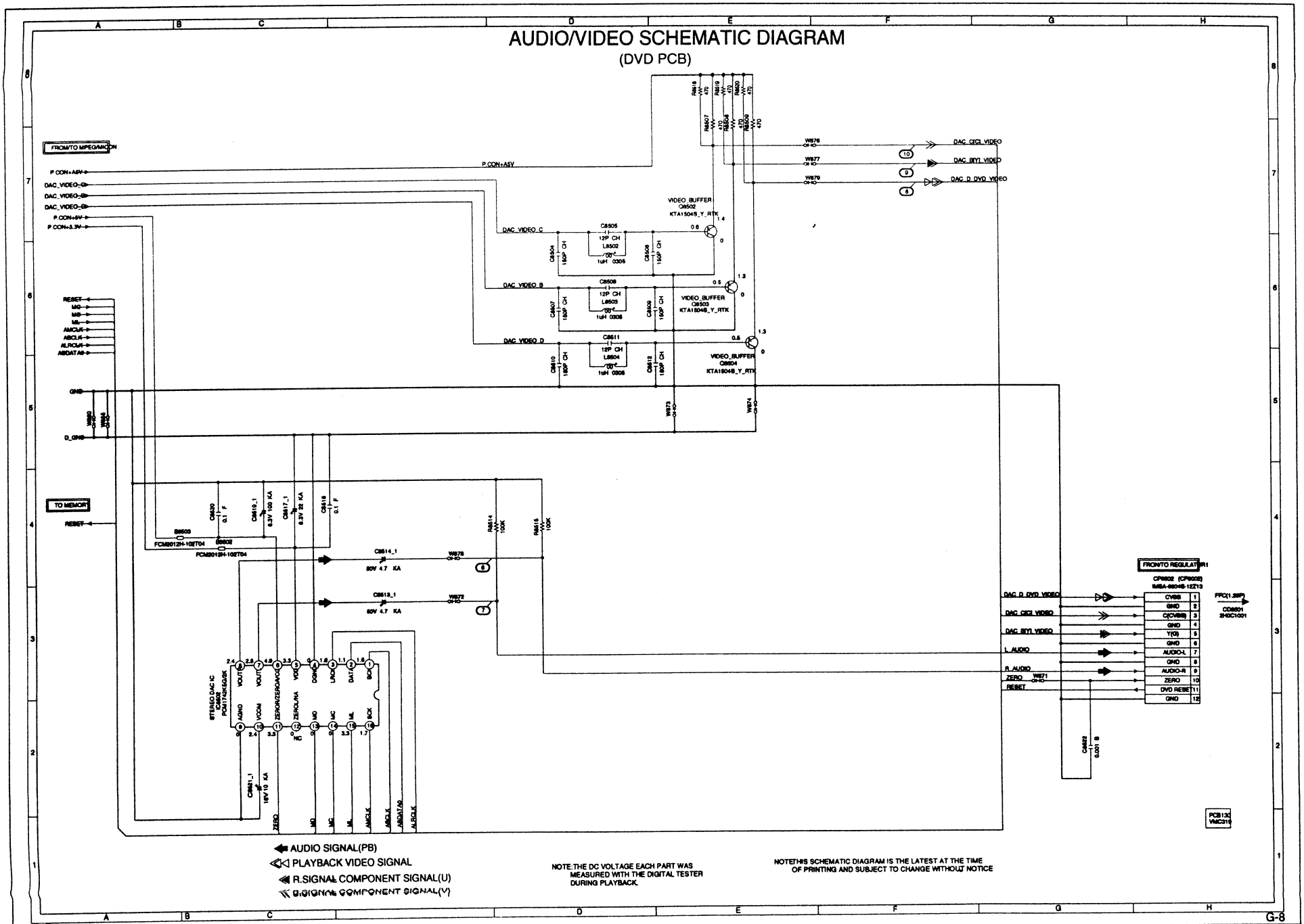


NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

AUDIO/VIDEO SCHEMATIC DIAGRAM

(DVD PCB)

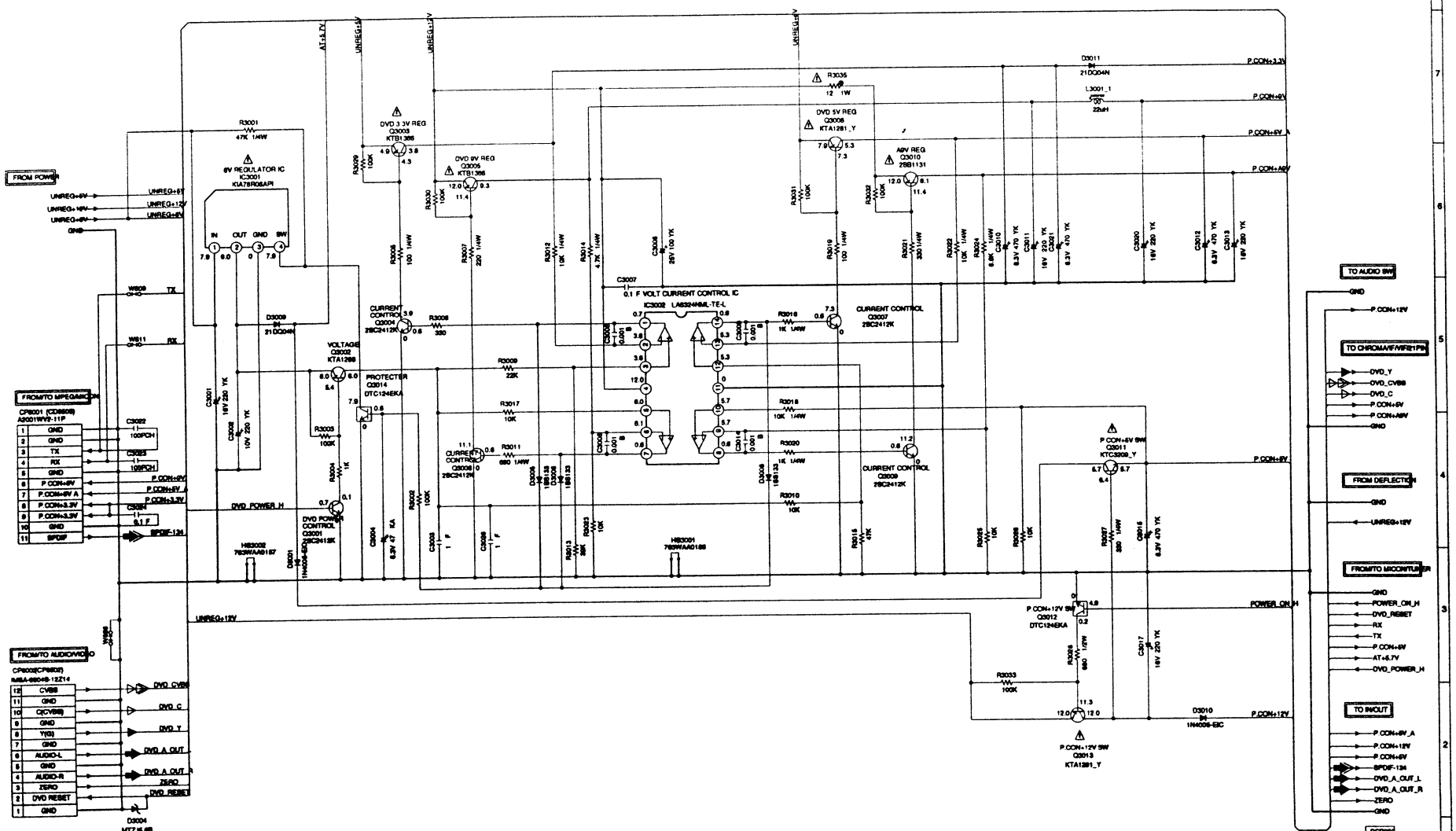


NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

REGULATOR1 SCHEMATIC DIAGRAM

(AV PCB)



NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

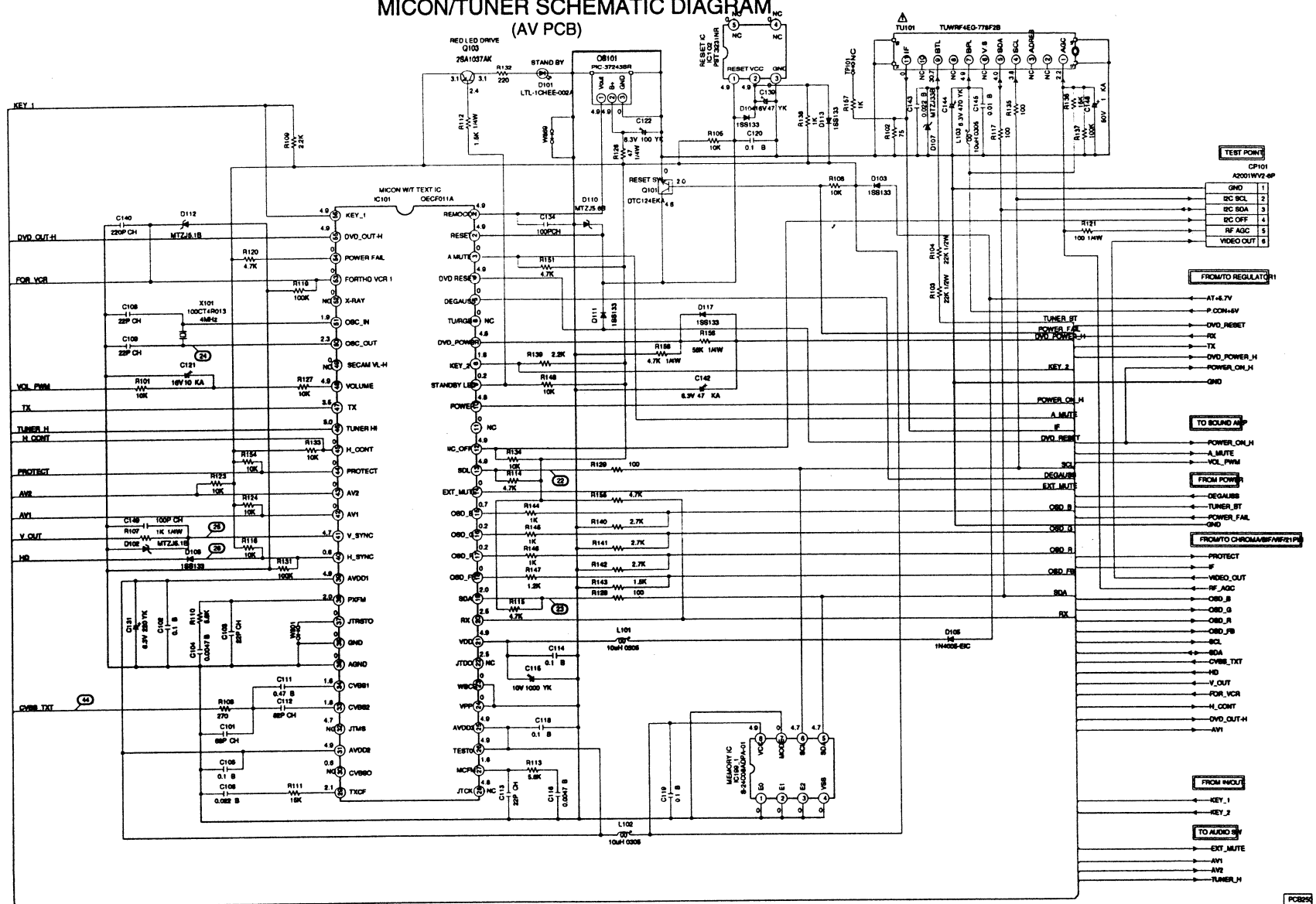
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

CAUTION: NICE THESE PARTS MARKED ⚠ ARE CRITICAL FOR SAFETY.USE ONES DESCRIBED IN PARTS LIST ONLY

ATTENTION: LES PIECES REPAREES PARQUE TANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES RIECES

MICON/TUNER SCHEMATIC DIAGRAM

(AV PCB)



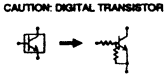
CAUTION: FOR SAFETY, ENSURE THAT REPLACEMENT PARTS ARE IDENTICAL TO THOSE USED IN THE ORIGINAL CIRCUIT. PARTS MARKED ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY

ATTENTION: POUR LA SECURITE, LES PIECES REPAREES DOIVENT ETRE IDENTIQUES AUX PIECES ORIGINALES. LES PIECES REPAREES PARTICULIEREMENT IMPORTANTES DANGEREUSES AU POINT DE VUE SECURITE SONT MARQUEES ⚠. NE PAS UTILISER DES PIECES NON AUTORISEES. NE PAS UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

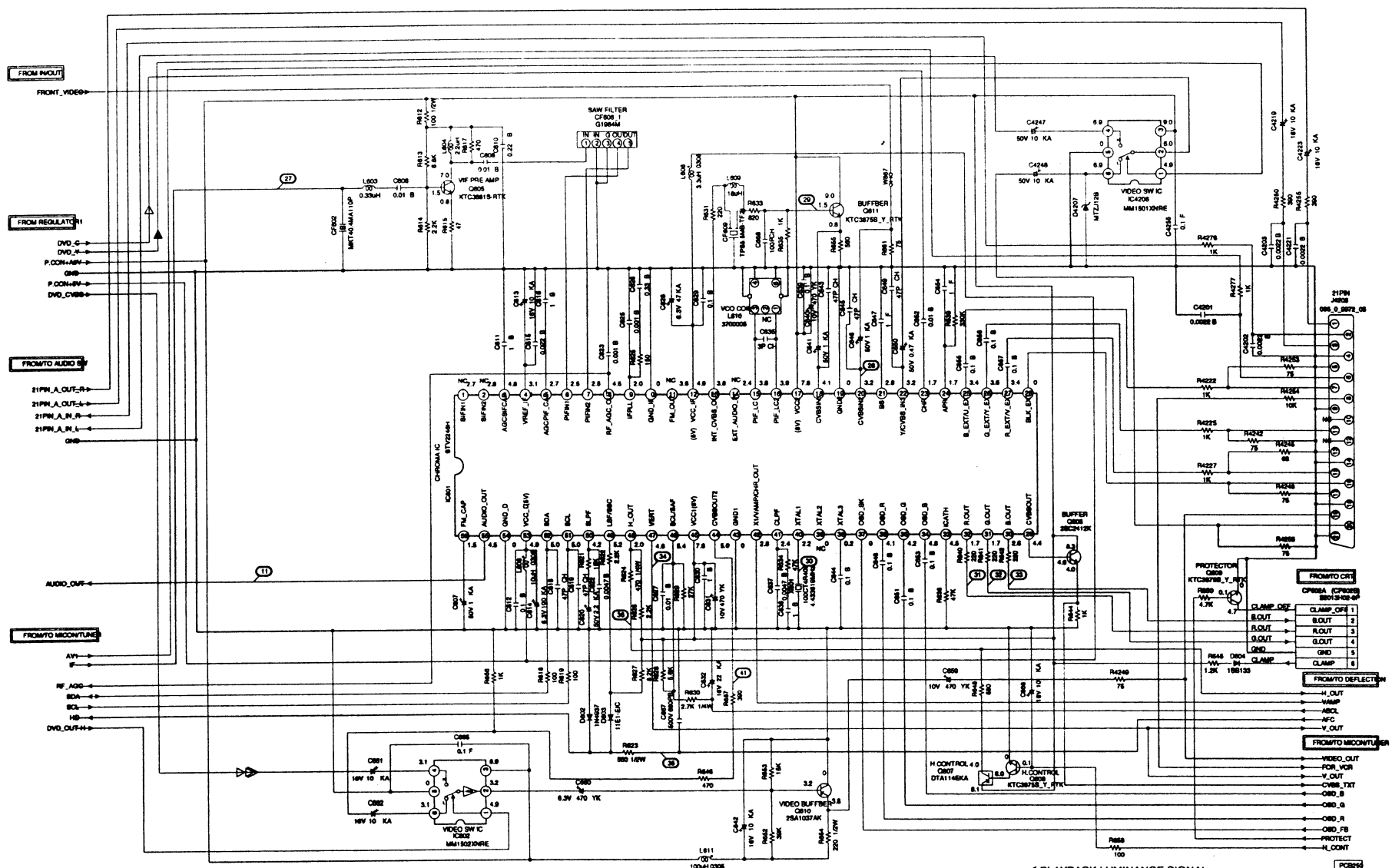
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

CAUTION: DIGITAL TRANSISTOR



CHROMA/SIF/VIF/21PIN SCHEMATIC DIAGRAM

(AV PCB)



◀ PLAYBACK LUMINANCE SIGNAL
◁ PLAYBACK COLOR SIGNAL
◁◁ PLAYBACK VIDEO SIGNAL

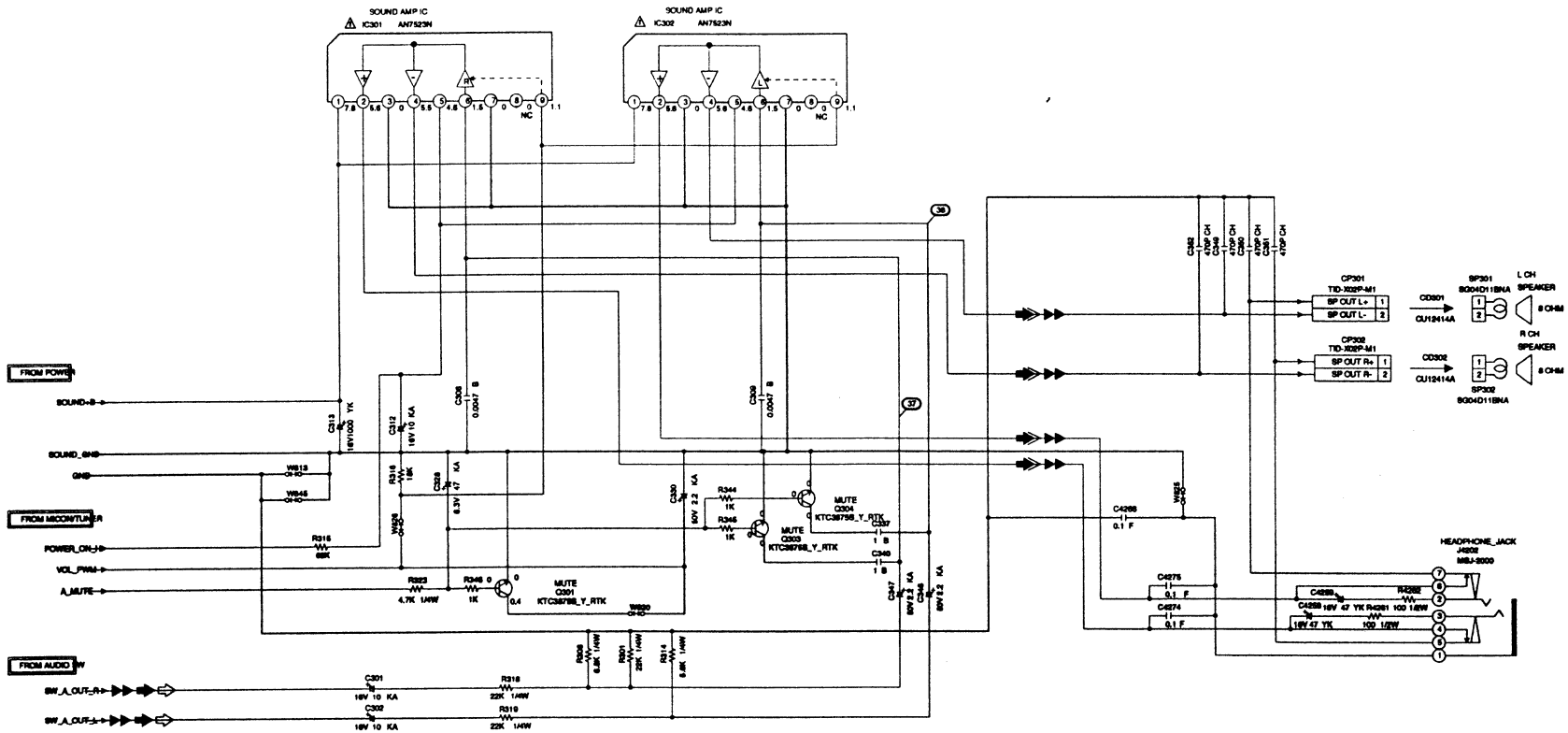
CAUTION: DIGITAL TRANSISTOR

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL

SOUND AMP SCHEMATIC DIAGRAM

(AV PCB)



NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

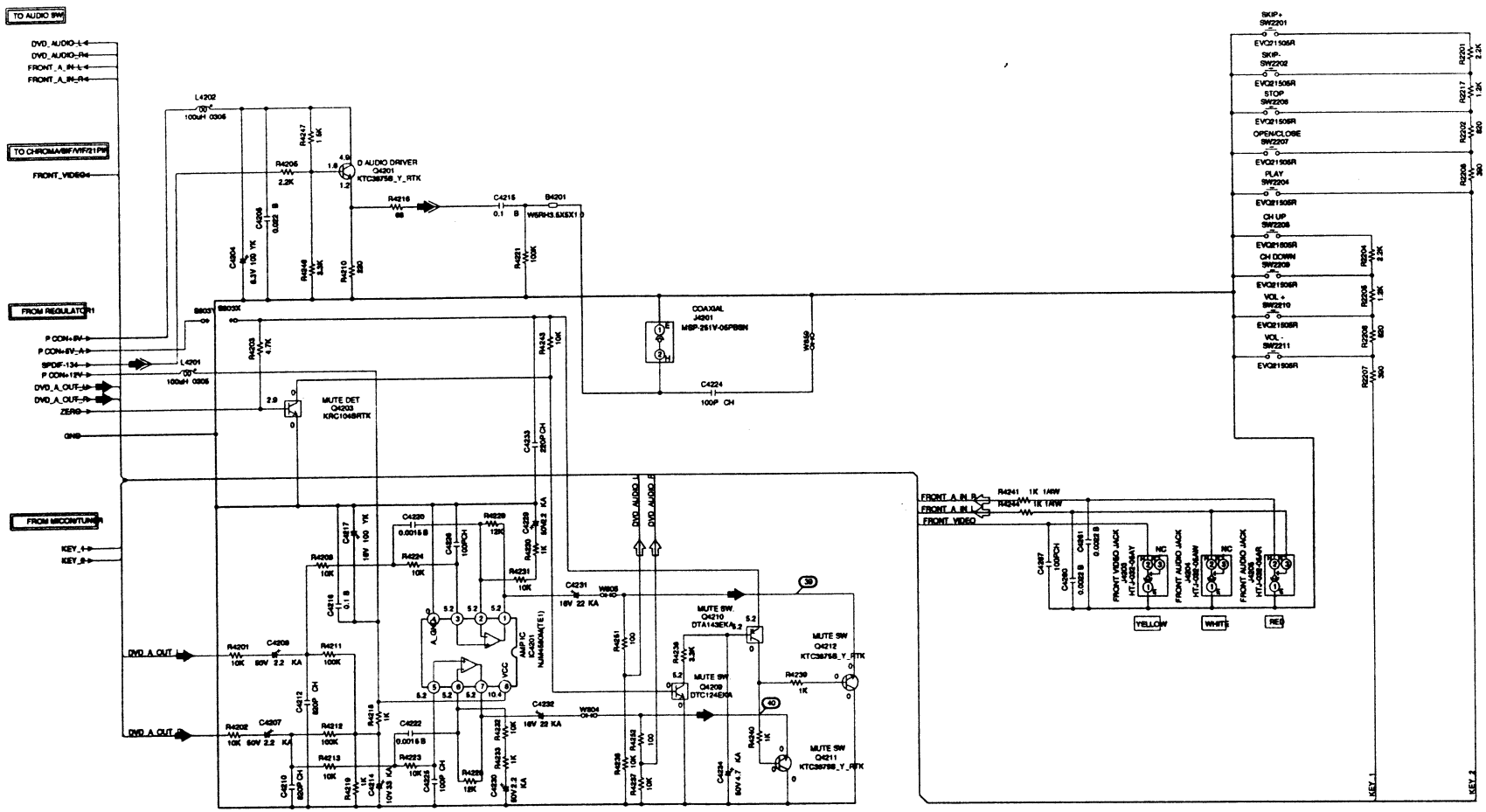
CAUTION! NOTICE THESE PARTS MARKED ⚠ ARE CRITICAL FOR SAFETY.USE ONES DESCRIBED IN PARTS LIST ONLY

ATTENTION! LES PIECES REPAREES PARMETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

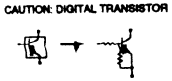
PCB250 TMC87A

- DIGITAL AUDIO SIGNAL(PB)
- AUDIO SIGNAL
- AUDIO SIGNAL(PB)
- TUNER AUDIO SIGNAL

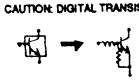
IN/OUT SCHEMATIC DIAGRAM
(AV PCB)



CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR

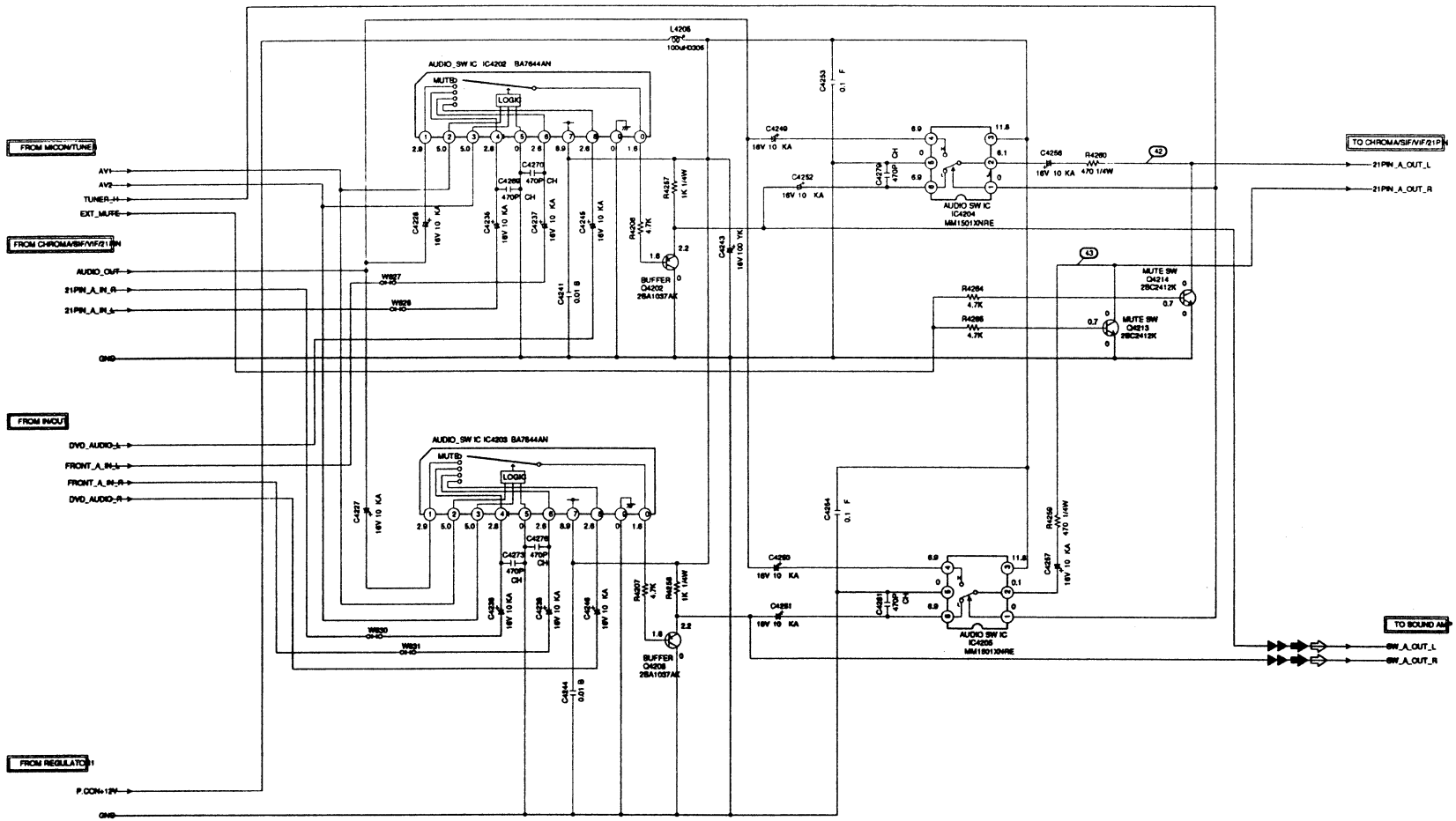


NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

⇦ AUDIO SIGNAL
⬅ AUDIO SIGNAL(PB)
⬅ DIGITAL AUDIO SIGNAL(PB)

AUDIO SW SCHEMATIC DIAGRAM
(AV PCB)

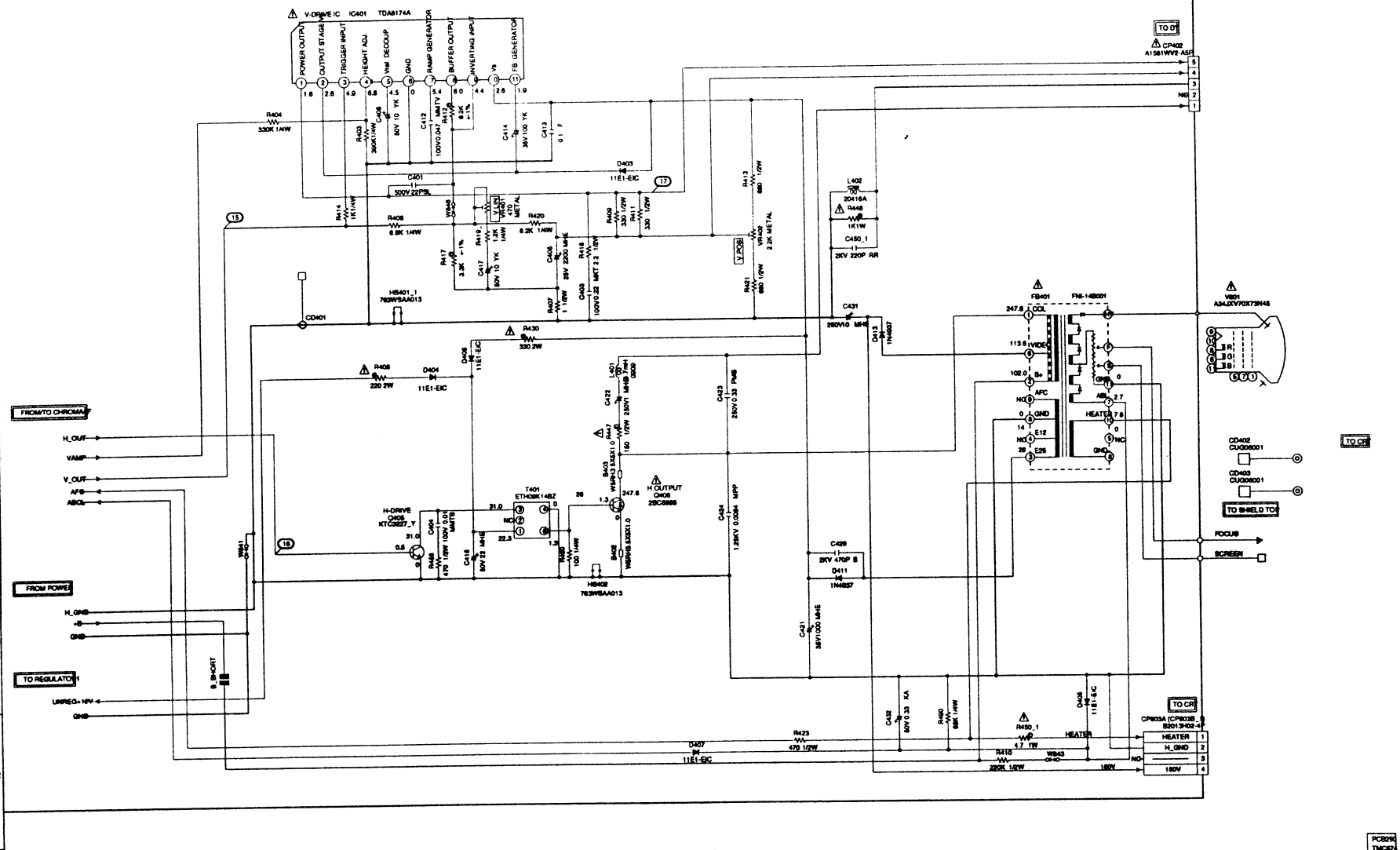


NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

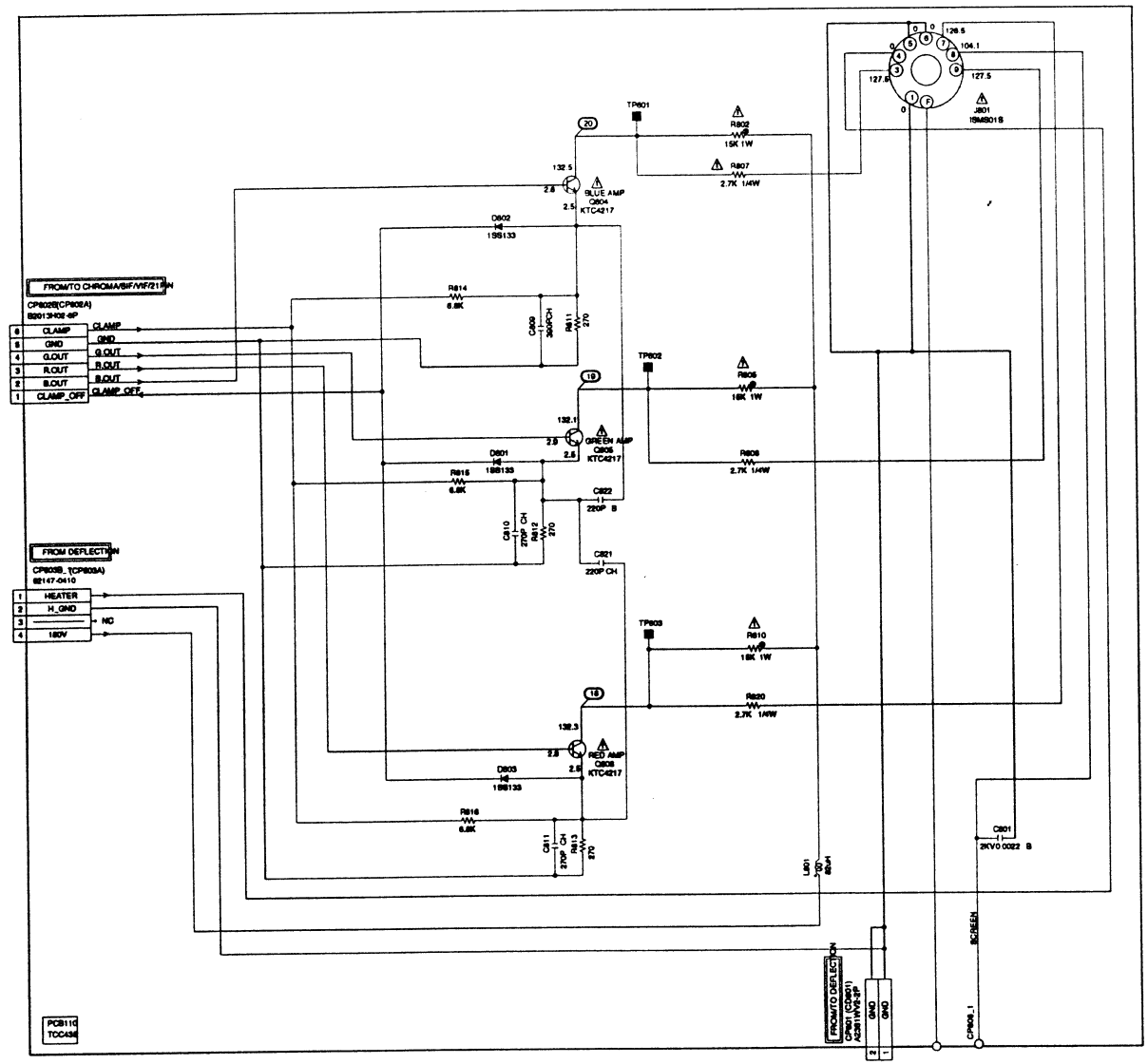
AUDIO SIGNAL(PB)
AUDIO SIGNAL
TUNER AUDIO SIGNAL

DEFLECTION SCHEMATIC DIAGRAM
(AV PCB)



CRT SCHEMATIC DIAGRAM

(CRT PCB)



NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

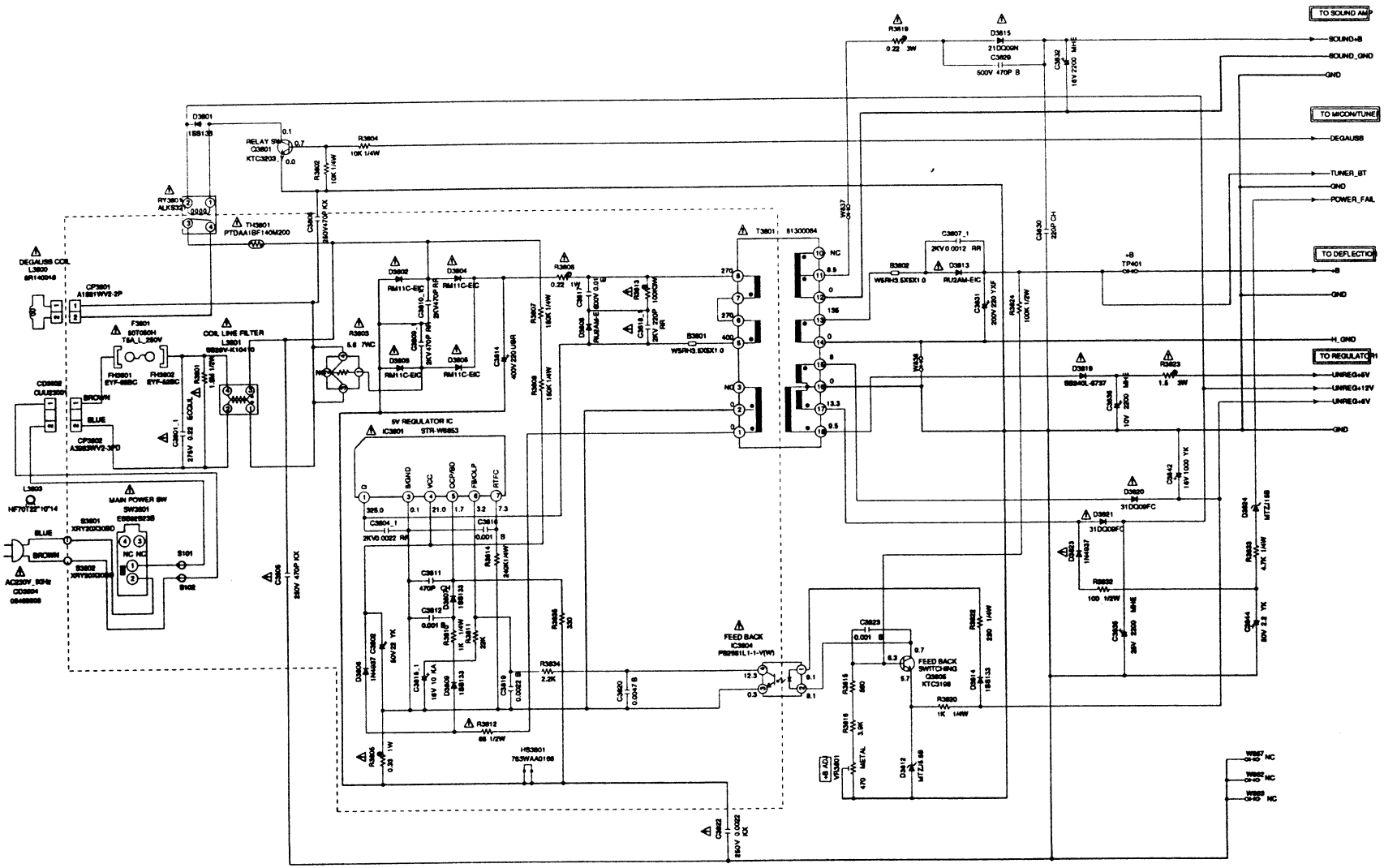
NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

CAUTION: MADE THESE PARTS MARKED ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY

ATTENTION: LES PIECES REPAREES PARMI CELLES ⚠ SONT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES RIECES

POWER SCHEMATIC DIAGRAM

(AV PCB)



ATTENTION

LES PIECES REPAREES PARMI CETANT DANGEREUSES AN POINT DE VUE SECURITE NUTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES RIECES

CAUTION

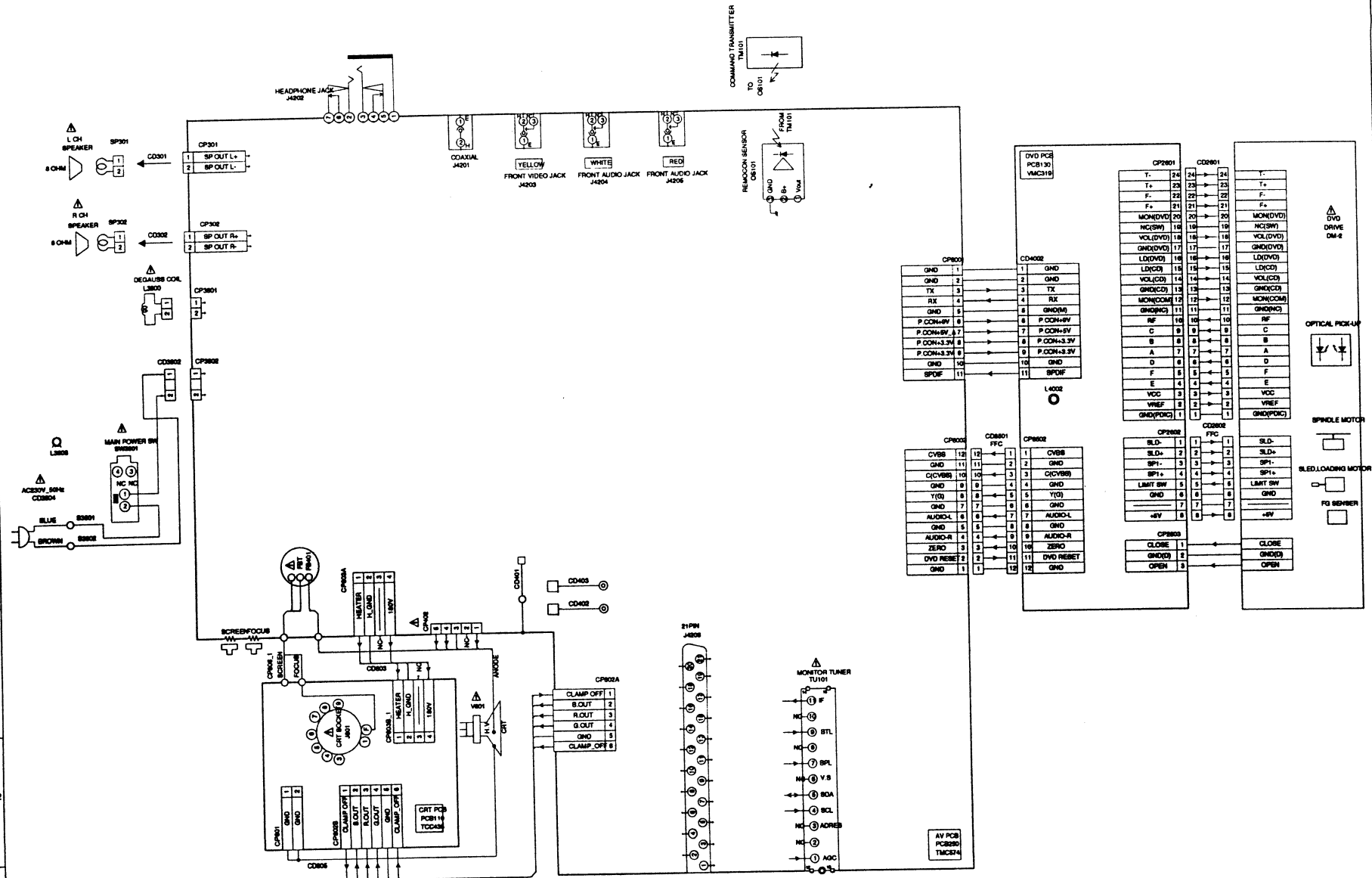
SINCE THESE PARTS MARKED ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTETHE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

INTERCONNECTION DIAGRAM



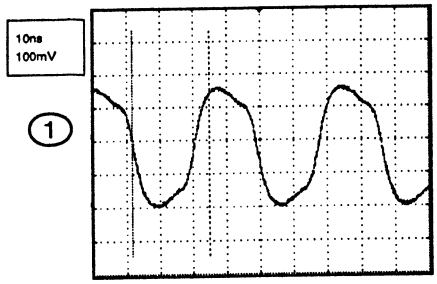
NOTE:THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

ATTENTION: CES PIECES REPAREES PARTICULIEREMENT DANGEREUSES AU POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

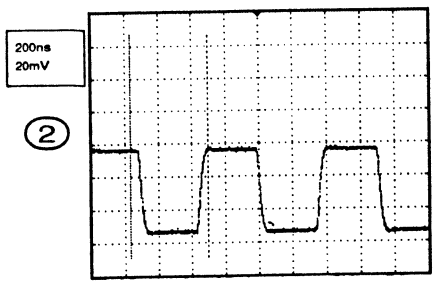
CAUTION: USE THESE PARTS MARKED ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY

WAVEFORMS

MPEG/MICON

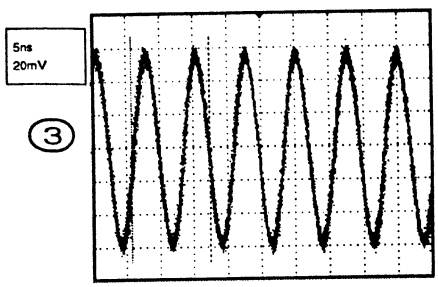


①



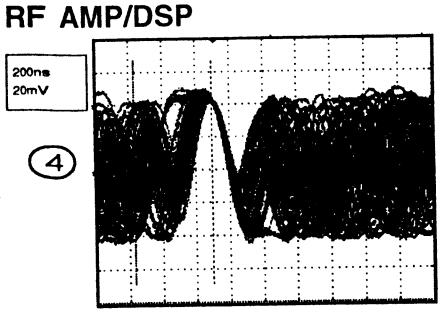
②

MEMORY



③

RF AMP/DSP



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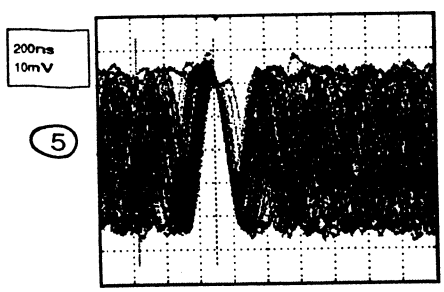
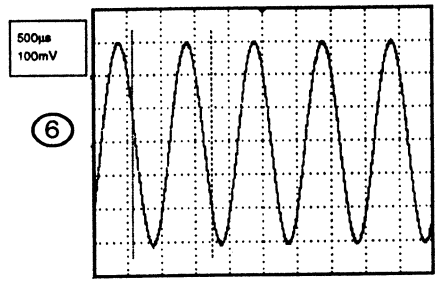
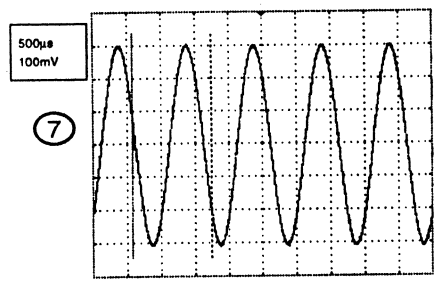


⑤

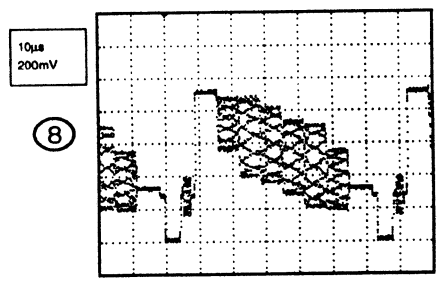
AUDIO/VIDEO



⑥



⑦



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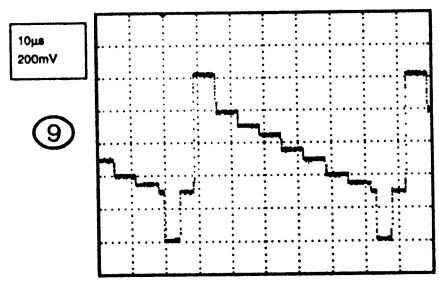

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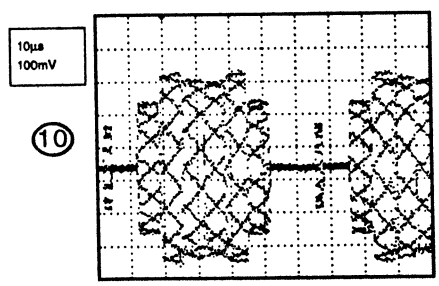
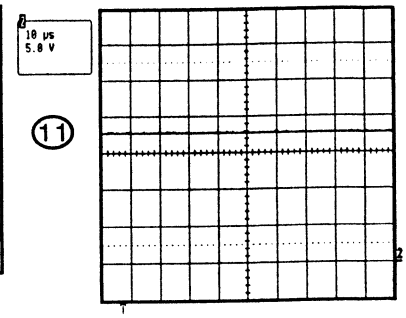


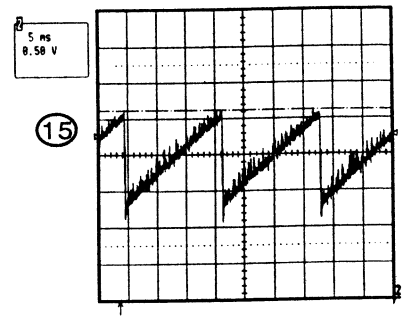
⑩

CHROMA/SIF/VIF/21PIN

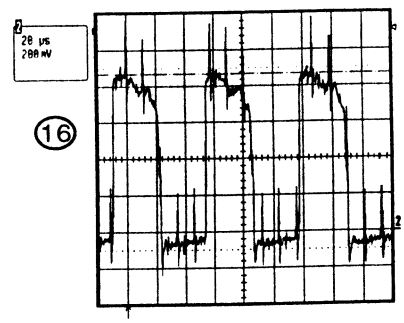


⑪

DEFLECTION



⑮



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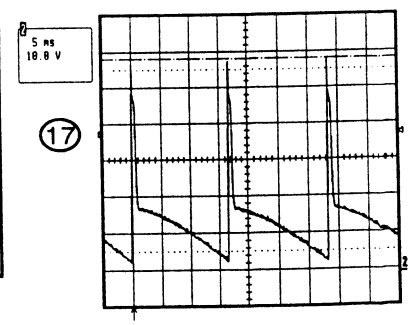
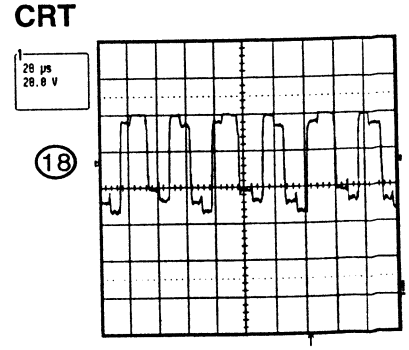


⑰

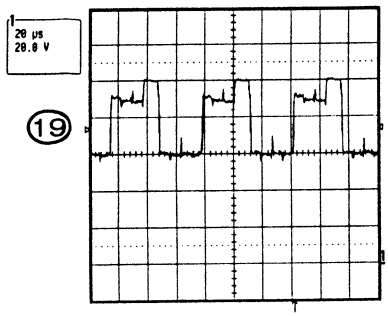
CRT



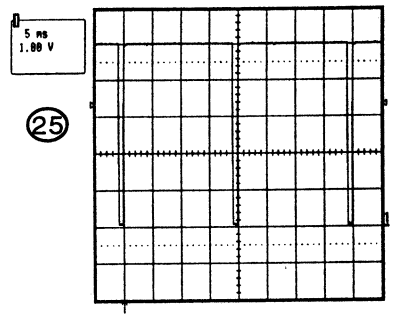
⑱

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

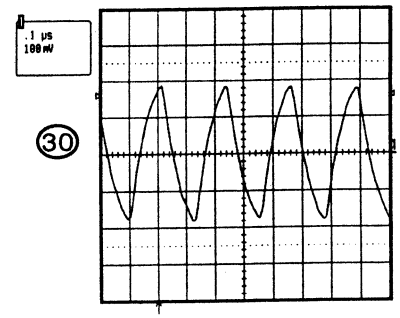
WAVEFORMS



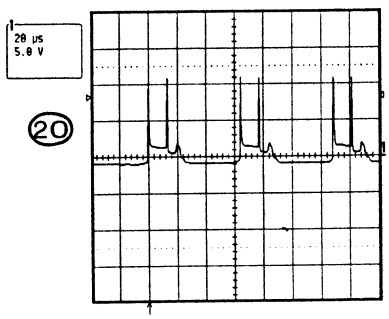
19



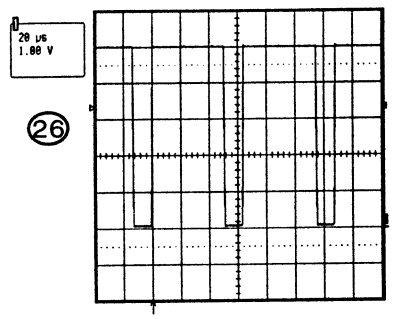
25



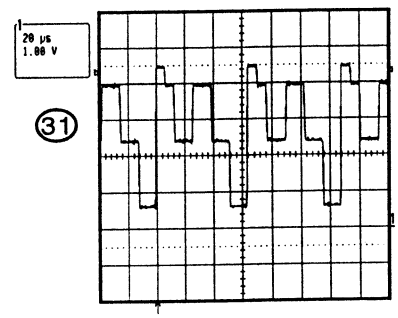
30



20

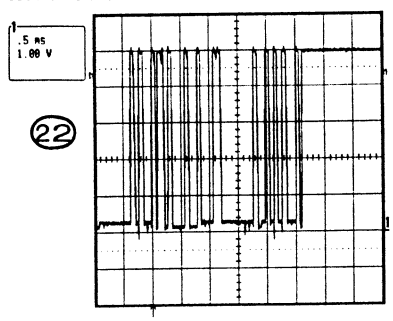


26



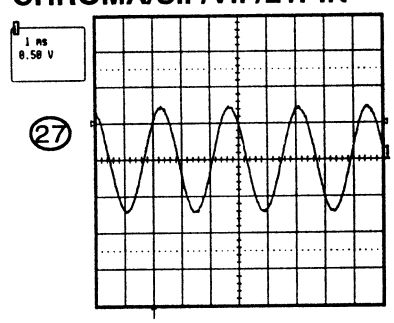
31

MICON/TUNER

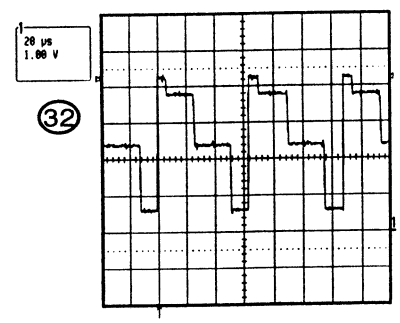


22

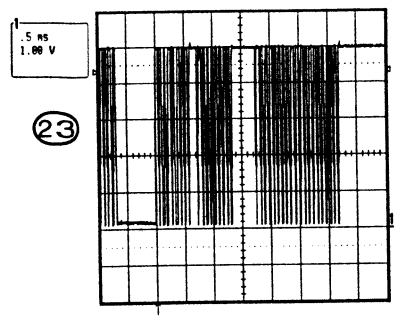
CHROMA/SIF/VIF/21PIN



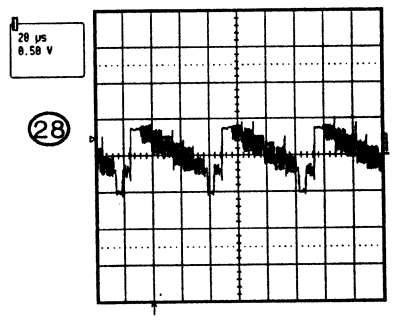
27



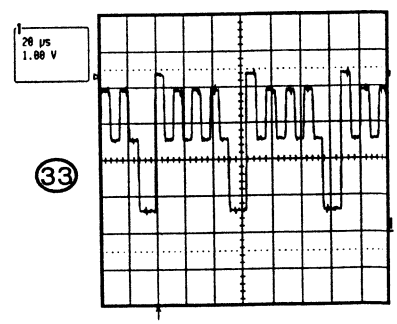
32



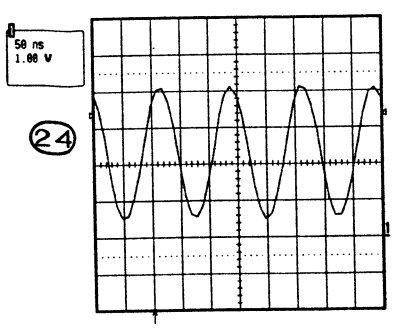
23



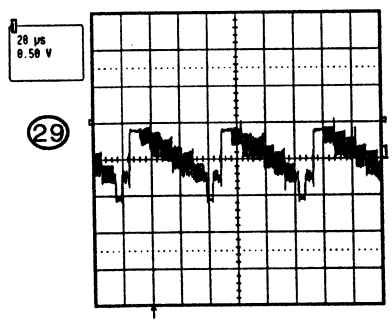
28



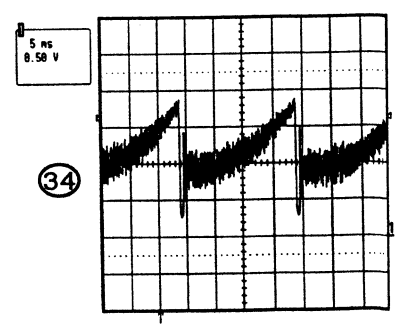
33



24



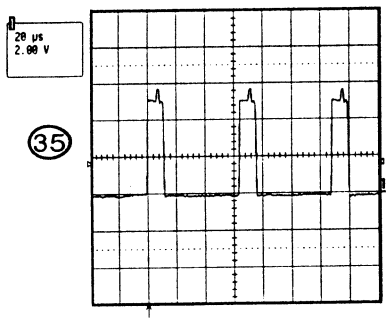
29



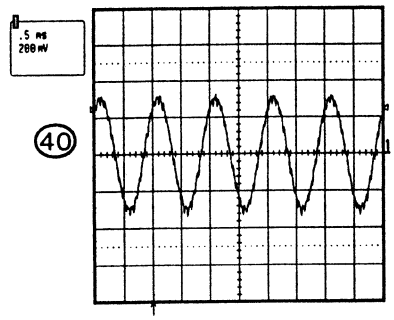
34

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

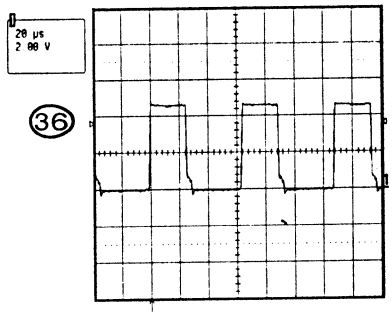


35

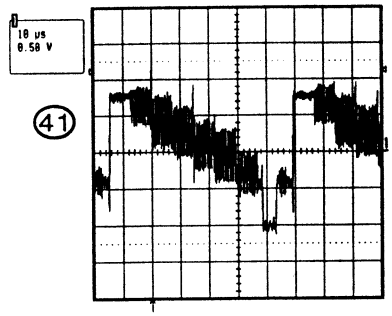


40

CHROMA/SIF/VIF/21PIN

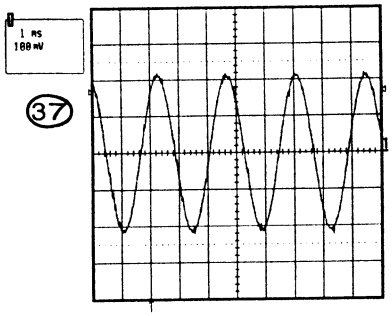


36



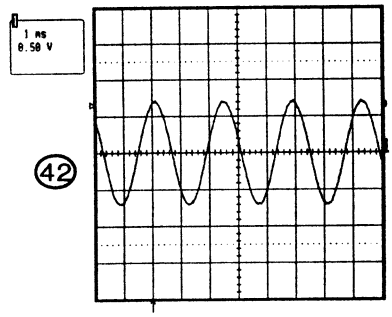
41

SOUND AMP

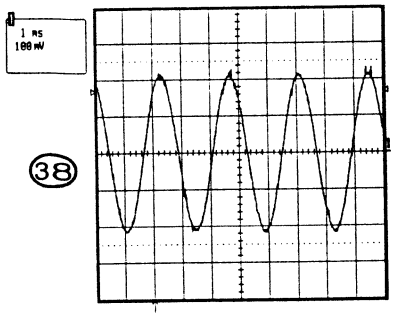


37

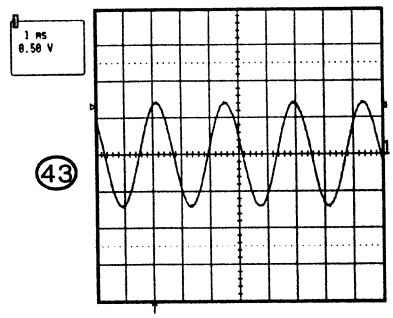
AUDIO SW



42

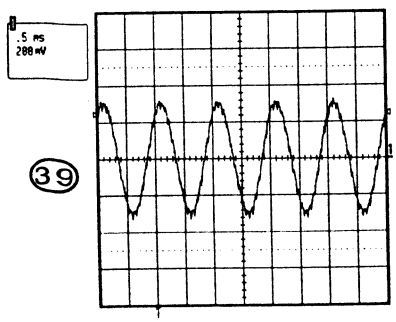


38



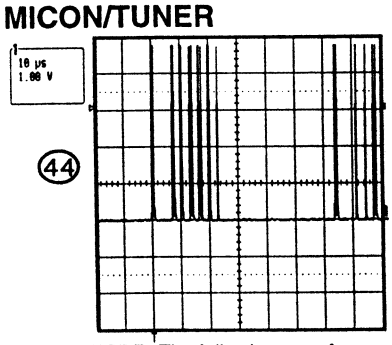
43

IN/OUT



39

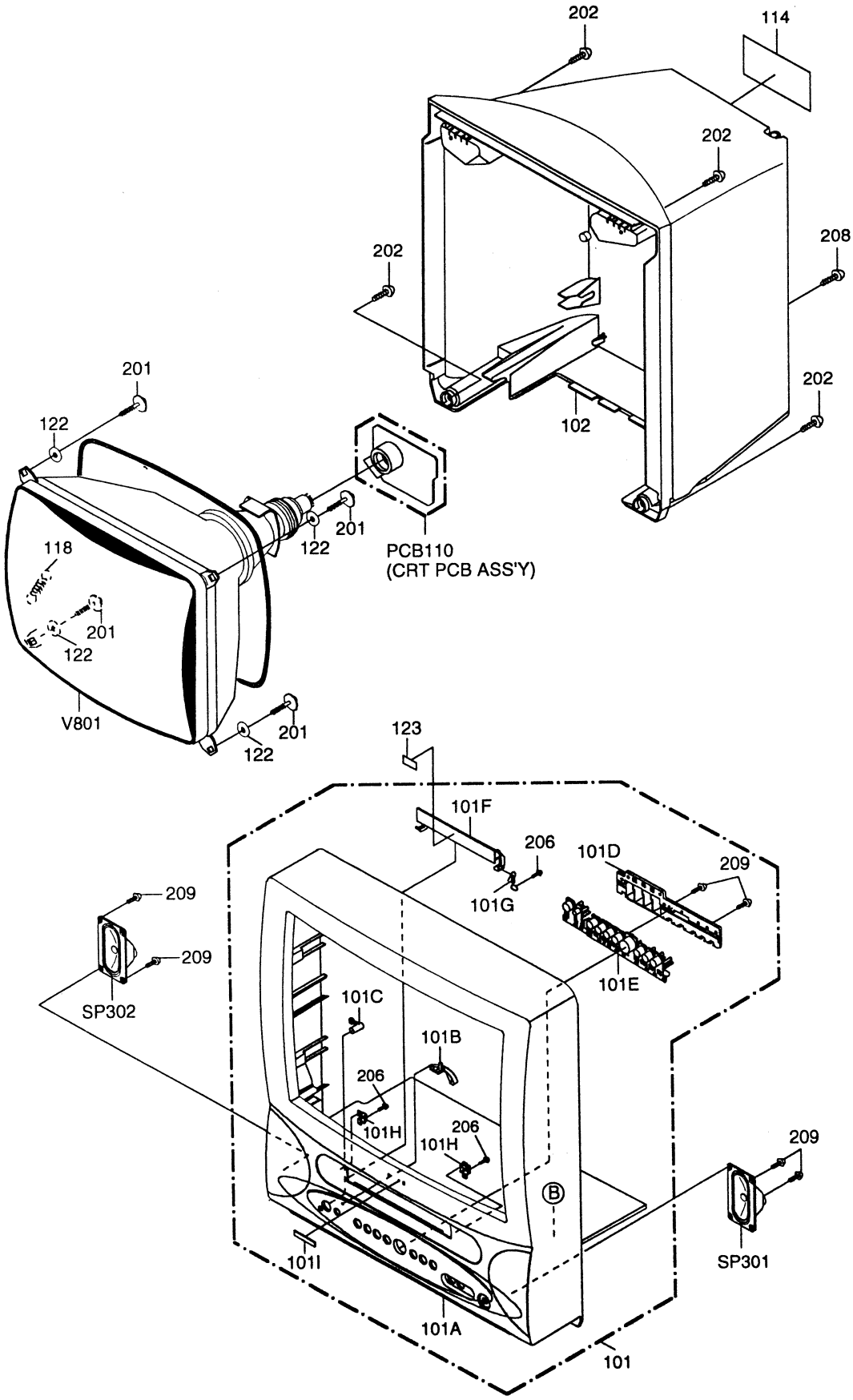
MICON/TUNER



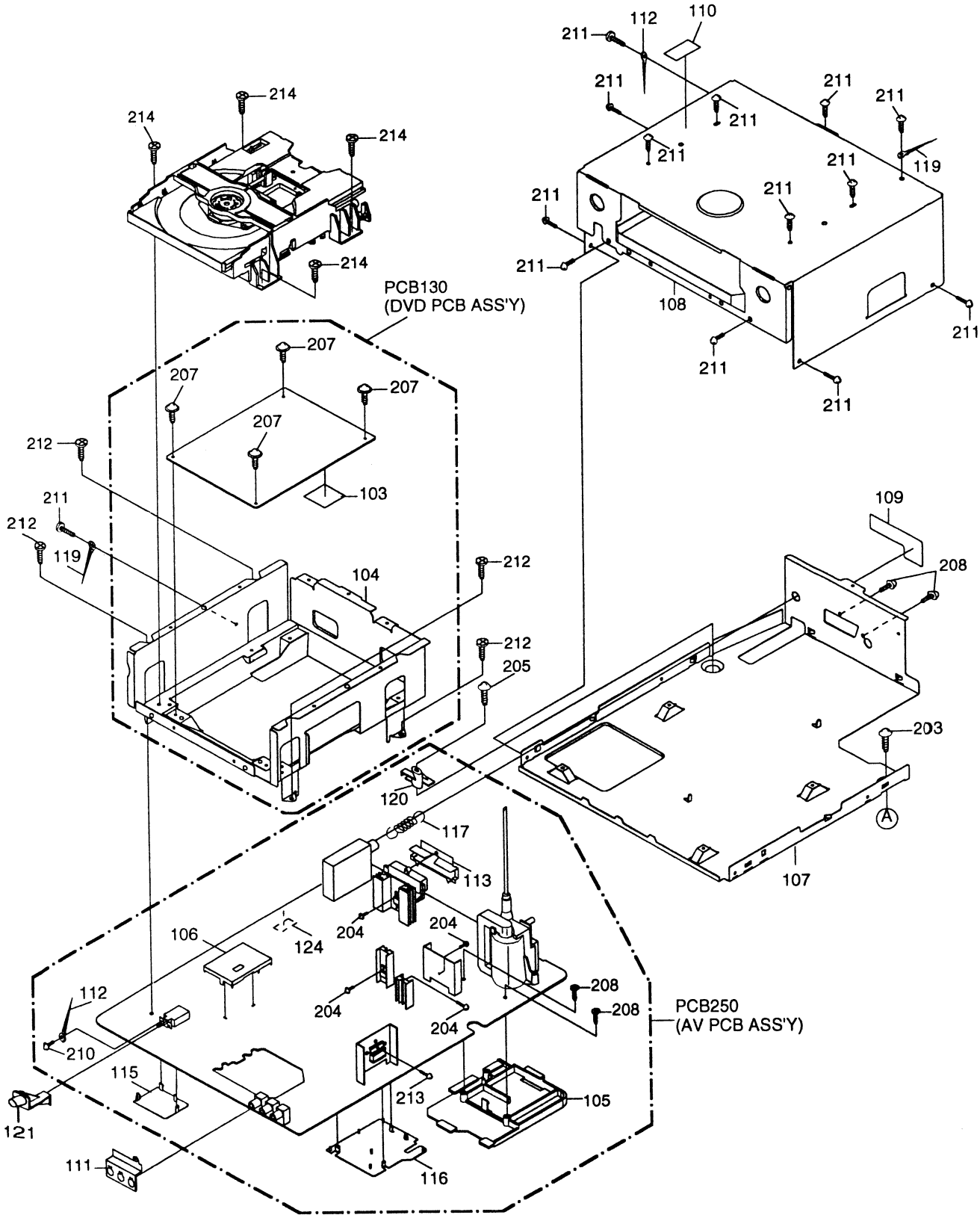
44

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

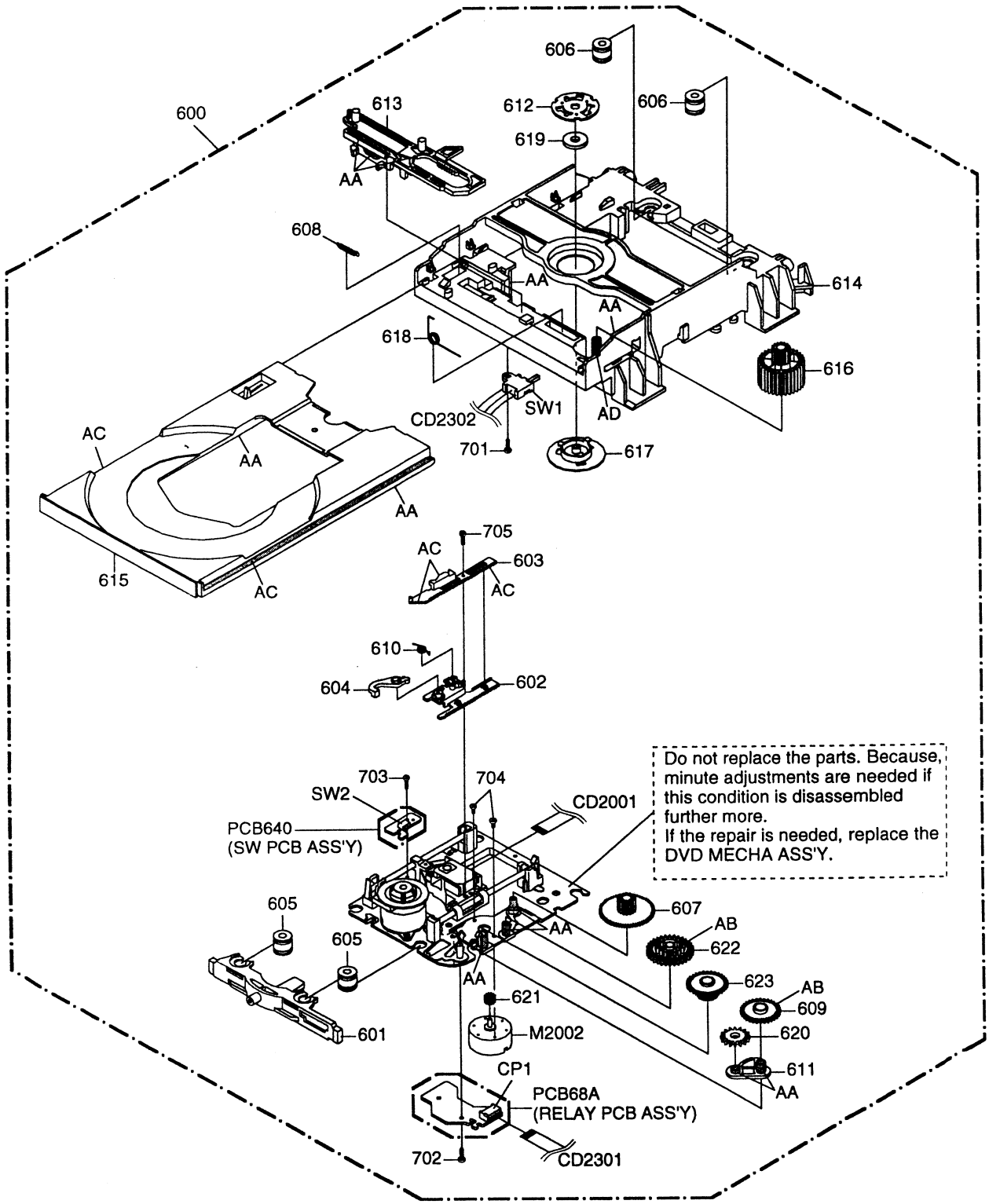
MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW



DVD DECK EXPLODED VIEW



CLASS	PART NO.	PART NAME	MARK
GREASE	Y315061000	G-555G	AA
	Y315121000	G-337F	AB
	Y315131000	SF-112	AC
	Y31D031000	ORG-102	AD

NOTE: Applying positions AA, AB, AC and AD for the grease are displayed for this section.
Check if the correct grease is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION			
101	A5J505C720	CABINET,FRONT ASSY			
101A	701WPJC265	CABINET,FRONT			
101B	713WPA0257	GLASS,LED			
101C	713WPA0258	GUIDE,REMOCON			
101D	735WPAA576	STOPPER,BUTTON			
101E	735WPBA740	BUTTON,FRAME			
101F	712WPBA072	FLAP,DVD			
101G	742WKA0001	SPRING,DVD-FLAP			
101H	761WPA0283	HOLDER,FLAP			
101I	711WPCA017	BADGE,BRAND			
102	702WPAA460	CABINET,BACK ASS'Y			or
	702WPAA551	CABINET,BACK			
103	7232020748	SHEET,IC			
104	761WSA0136	ANGLE,DECK			
105	761WPA0249	HOLDER,FBT			
106	752WSA0347	SHIELD,CASE			
107	702WSA0188	PLATE,BOTTOM			
108	702WSA0191	SHIELD,TOP			
109	7230007687	SHEET,JACK			
110	7260000341	SHEET,CAUTION			
111	752WSA0333	SHIELD,JACK			
112	8995034000	CORD CLIP UL CO.			
113	761WSA0098	SHIELD,21PIN			
114	722202A735	SHEET,RATING			
115	755WPA0037	COVER,PCB			
116	755WPA0038	COVER,PCB			
117	743WKA0046	SPRING,TUNER			
118	741WUA0001	SPRING,EARTH			
119	899EFBA001	WIRING CLIP			
120	735WPA0777	SPACER			
121	735WPBA858	BUTTON,POWER			
122	800WR0A011	SHEET CRT SUPPORT (D)			
123	7235630001	SHEET,DVD(NEW)			
124	724WNAA002	SHEET,PVC		5x10xT=0.3	
201	8121F50B84	SCREW,TAP TITE(P)	FAI20 FLAT	5x28	
202	8117540A64	SCREW,TAPPING(B0)	TRUSS	4x16	
203	8117540804	SCREW,TAPPING(B0)	TRUSS	4x8	
204	8109I30A04	SCREW,TAP TITE(B)	WH7	3x10	
205	8117540B04	SCREW,TAPPING(B0)	TRUSS	4x20	
206	8110E30804	SCREW,TAP TITE(P)	WH10	3x8	
207	8109I30804	SCREW,TAP TITE(B)	WH7	3x8	
208	8109230804	SCREW,TAP TITE(B)	BIND	3x8	
209	8110630804	SCREW,TAP TITE(P)	BRAZIER	3x8	
210	8107230404	SCREW,TAP TITE(S)	BIND	3x4	
211	8109230604	SCREW,TAP TITE(B)	BIND	3x6	
212	8109230704	SCREW,TAP TITE(B)R	BIND	3x7	
213	8107630804	SCREW,TAP TITE(S)	BRAZIER	3x8	
214	810F130804	SEMS(F)		3x8	
—	A5J505C975	INSTRUCTION BOOK KIT			
—	J5J50501A	INSTRUCTION BOOK			
—	J5J50507A	QUICK SET-UP SHEET			
—	JB5Z0200	POLYBAG,INSTRUCTION			
—	791WHA0061	LAMIFILM BAG			
—	792WHAA077	PACKAGE,TOP			
—	792WHAA078	PACKAGE,BOTTOM			
—	793WCDB937	GIFT BOX			

DVD DECK REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
600	A5J501C420D	DVD MECHA ASS'Y	A5J501C420D
601	92P100022A	TRAVERSE HOLDER	
602	92P100080A	RACK,FEED 1A	
603	92P100081A	RACK,FEED 2A	
604	92P100035A	LEVER,RACK FEED	
605	92P200008A	INSULATOR(F)	
606	92P200007A	INSULATOR(R)	
607	92P100029A	GEAR,FEED	
608	92P300009A	SPRING,RACK L	
609	92P100028A	GEAR,MIDDLE 3	
610	92P300019A	SPRING,RACK FEED 1A	
611	92P100040A	ARM,IDLER 2	
612	92P000001A	CLAMPER PLATE	
613	92P100019A	RACK,LOADING	
614	92P100020A	MAIN FRAME M	
615	92P100039A	TRAY	
616	92P100023A	GEAR,MAIN	
617	92P100024A	CLAMPER	
618	92P300002A	SPRING,RACK LOADING	
619	92P400002A	MAGNET,CLAMPER	
620	92P100030A	GEAR,IDLER	
621	92P100025A	GEAR,MOTOR	
622	92P100083A	GEAR,MIDDLE 1	
623	92P100027A	GEAR,MIDDLE 2	
701	8110226804	SCREW,TAP TITE(P) BIND	2.6x8
702	8110120604	SCREW,TAP TITE(P) PAN	2x6
703	8107220504	SCREW,TAP TITE(S) BIND	2x5
704	8140117254	SCREW,PAN	M1.7x2.5 P3
705	8110220804	SCREW,TAP TITE(P) BIND	2x8
CD2001	122H0O1901	CORD JUMPER	2H0O1901
CD2301	122H080701	CORD JUMPER	2H080701
CD2302	06CH232101	CORD CONNECTOR	232101
CP1	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
⚠ M2002	1515S98001	FEED MOTOR	BCD3B81
PCB640	A5E601V640	PCB ASS'Y	BEC001A
PCB68A	A5E601V680	PCB ASS'Y	VEBA12A
SW1	0515S32001	SWITCH	SSS-23-6
SW2	0500101036	PUSH SWITCH	ESE22MH22

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
RESISTORS			
R408	R3X18A221J	R,METAL OXIDE	220 OHM 2W
R430	R3X18A331J	R,METAL OXIDE	330 OHM 2W
R447	R65582151J	R,FUSE	150 OHM 1/2W
R448	R3X181102J	R,METAL OXIDE	1K OHM 1W
R450	R635814R7J	R,FUSE	4.7 OHM 1W
R802	R3X181153J	R,METAL OXIDE	15K OHM 1W
⚠ R805	R3X181153J	R,METAL OXIDE	15K OHM 1W
R810	R3X181153J	R,METAL OXIDE	15K OHM 1W
R2344	R002T21R2J	RC	1.2 OHM 1/2W
R2345	R002T21R2J	RC	1.2 OHM 1/2W
R3035	R3X181120J	R,METAL OXIDE	12 OHM 1W
R3803	R5X34E5R6J	R,CEMENT	5.6 OHM 7W
R3805	R3X181R33J	R,METAL OXIDE	0.33 OHM 1W
R3806	R63581R22J	R,FUSE	0.22 OHM 1W
R3813	R3X28B104J	R,METAL	100K OHM 3W
R3819	R3X28BR22J	R,METAL	0.22 OHM 3W
R3823	R3X28B1R5J	R,METAL	1.5 OHM 3W
CAPACITORS			
C405	E5EZF3222M	CE	2200 UF 25V
C421	E5EZF4102M	CE	1000 UF 35V
C423	P4J7F3334J	CMPP	0.33 UF 250V PMS
C424	P4N8FJ842H	CMPP	0.0084UF 1.25KV
C450	C0PLRR7H2K	CC	220 PF 2KV R
C801	C0JBB07H3K	CC	0.0022UF 2KV B
C3801	P2122B224M	CMP	0.22 UF 275V ECQUL
C3804	C0PLRR7H3K	CC	0.0022 UF 2KV R
C3805	CD39B0MQ2K	CC	470 PF 250V
C3806	CD39B0MQ2K	CC	470 PF 250V
C3807	C0PLRR7B3K	CC	0.0012 UF 2KV R
C3809	C0PLRR7Q2K	CC	470 PF 2KV R
C3810	C0PLRR7Q2K	CC	470 PF 2KV R
C3814	E52D0H221M	CE	220 UF 400V
C3817	C0JFE0514M	CC	0.01 UF 500V E
C3818	C0PLRR7H2K	CC	220 PF 2KV R
C3822	CD39E0MH3M	CC	0.0022UF 250V
C3829	C0J0B05Q2K	CC	470 PF 500V B
C3831	E62NFC221M	CE	220 UF 200V
C3832	E5EZF2222M	CE	2200 UF 16V
C3835	E5EZF3222M	CE	2200 UF 25V
C3836	E5EZ01222M	CE	2200 UF 10V
DIODES			
D101	0021E2Q140	LED	LTL-1CHEE-002A
D102	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D103	D1VT001330	DIODE,SILICON	1SS133T-77
D104	D1VT001330	DIODE,SILICON	1SS133T-77
D105	D2WXN40050	DIODE SILICON	1N4005-EIC
D107	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D108	D1VT001330	DIODE,SILICON	1SS133T-77
D110	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D111	D1VT001330	DIODE,SILICON	1SS133T-77
D112	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D113	D1VT001330	DIODE,SILICON	1SS133T-77
D117	D1VT001330	DIODE,SILICON	1SS133T-77
D403	D2WT011E10	DIODE SILICON	11E1-EIC
D404	D2WT011E10	DIODE SILICON	11E1-EIC
D405	D2WT011E10	DIODE SILICON	11E1-EIC
D406	D2WT011E10	DIODE SILICON	11E1-EIC
D407	D2WT011E10	DIODE SILICON	11E1-EIC
D411	D2WXN49370	DIODE SILICON	1N4937
D413	D2WXN49370	DIODE SILICON	1N4937
D602	D2WXN49370	DIODE SILICON	1N4937
D603	D2WT011E10	DIODE SILICON	11E1-EIC
D604	D1VT001330	DIODE,SILICON	1SS133T-77
D801	D1VT001330	DIODE,SILICON	1SS133T-77
D802	D1VT001330	DIODE,SILICON	1SS133T-77
D803	D1VT001330	DIODE,SILICON	1SS133T-77
D2601	DDARDS1200	DIODE SILICON	KDS120RTK
D3001	D2WXN40050	DIODE SILICON	1N4005-EIC
D3004	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D3005	D1VT001330	DIODE,SILICON	1SS133T-77
D3006	D1VT001330	DIODE,SILICON	1SS133T-77
D3008	D1VT001330	DIODE,SILICON	1SS133T-77
D3009	D28T21DQN4	DIODE SCHOTTKY	21DQ04N-TA2B1
D3010	D2WXN40050	DIODE SILICON	1N4005-EIC
D3011	D28021DQN4	DIODE SCHOTTKY	21DQ04N
D3801	D1VT001330	DIODE,SILICON	1SS133T-77
D3802	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D3803	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D3804	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D3805	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D3806	D2WXN49370	DIODE SILICON	1N4937
D3807	D1VT001330	DIODE,SILICON	1SS133T-77
D3808	D2WXRU2AM0	DIODE SILICON	RU2AM-EIC
D3809	D1VT001330	DIODE,SILICON	1SS133T-77
D3812	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D3813	D2WXRU2AM0	DIODE SILICON	RU2AM-EIC
D3814	D1VT001330	DIODE,SILICON	1SS133T-77
D3815	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
D3819	D2LKB340L0	DIODE SCHOTTKY	SB340L-6737
D3820	D28F31DQ09	DIODE SCHOTTKY	31DQ09FC
D3821	D28F31DQ09	DIODE SCHOTTKY	31DQ09FC
D3823	D2WXN49370	DIODE SILICON	1N4937
D3824	D97U01501B	DIODE,ZENER	MTZJ15B T-77
D4001	DDDRL41480	DIODE SILICON	MCL4148
D4207	D97U01201B	DIODE,ZENER	MTZJ12B T-77
ICS			
IC101	I5PD0F011A	IC	OECF011A
IC102	I9UF032310	IC	PST3231NR
IC199	I5HD008AD0	IC	S-24C08ADPA-01
IC301	I0FSP7523N	IC	AN7523N
IC302	I0FSP7523N	IC	AN7523N
IC401	I0WTD81740	IC	TDA8174A
IC601	I0WDE2246H	IC	STV2246H or
	I0WDE2246E	IC	STV2246E
IC602	I0UF015020	IC	MM1502XNRE
IC2301	I03F065600	IC	LA6560
IC2601	ICQK067070	IC	ZR36707TQC
IC2602	I07E00358F	IC	BA10358F-E2
IC3001	I1KA98R06A	IC	KIA78R06API
IC3002	I03F6324N0	IC	LA6324NML-TE-L
IC3801	I2BT068530	IC	STR-W6853
IC3804	000220001W	PHOTO COUPLER	PS2561L1-1-V(W)
IC4001	ICQK067620	IC	ZR36762
IC4002	I5HJ004BF0	IC	S-24C04BFJ-TB
IC4003	I0GF9XZ010	IC	PQ070XZ01ZP
IC4005	IF9J0164A7	IC	M12L64164A-7T
IC4007	ICMJ0800A7	IC	SST39VF800A-70-4C-EK
IC4201	I0QJ045800	IC	NJM4580M(TE1)
IC4202	I07S0644AN	IC	BA7644AN
IC4203	I07S0644AN	IC	BA7644AN
IC4204	I0UF015010	IC	MM1501XNRE
IC4205	I0UF015010	IC	MM1501XNRE
IC4206	I0UF015010	IC	MM1501XNRE
IC8502	I17F02KEG0	IC	PCM1742KEG/2K
TRANSISTORS			
Q101	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q103	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q301	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q303	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q304	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q405	TCAT03227Y	TRANSISTOR SILICON	KTC3227_Y-AT
Q406	TC1G058850	TRANSISTOR SILICON	2SC5885
Q605	T8AA03881S	TRANSISTOR SILICON	KTC3881S-RTK
Q606	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S
Q607	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146
Q608	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q609	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q610	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q611	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
⚠ Q804	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
⚠ Q805	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
⚠ Q806	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
Q2601	T67J1036K0	TRANSISTOR SILICON	2SA1036KT146
Q2602	T67J1036K0	TRANSISTOR SILICON	2SA1036KT146
Q2603	T27T030180	FET	2SK3018
Q2604	T27T030180	FET	2SK3018
Q2605	T27T030180	FET	2SK3018
Q3001	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S
Q3002	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q3003	TBA0013660	TRANSISTOR SILICON	KTB1366(O,Y)
Q3004	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S
Q3005	TBA0013660	TRANSISTOR SILICON	KTB1366(O,Y)
Q3006	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S
Q3007	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S

REF. NO.	PART NO.	DESCRIPTION	
		TRANSISTORS	
Q3008	TAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q3009	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S
Q3010	TB3T011310	TRANSISTOR SILICON	2SB1131(S,T)-AE
Q3011	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
Q3012	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q3013	TAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q3014	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q3801	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q3805	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q4004	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4201	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4202	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4203	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q4208	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4209	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q4210	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q4211	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4212	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4213	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S
Q4214	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S
Q8502	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q8503	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q8504	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
		COILS &TRANSFORMERS	
L101	02167F100J	COIL	10 UH
L102	02167F100J	COIL	10 UH
L103	02167F100J	COIL	10 UH
L401	021679472K	COIL	4.7 MH
L402	022800033A	COIL,LINEARITY	20416A
L603	0216A6R33K	COIL	0.33 UH
L604	0216A62R2K	COIL	2.2 UH
L606	02167F100J	COIL	10 UH
L608	02167F3R3J	COIL	3.3 UH
L609	0216A6180J	COIL	18 UH
L610	033700005R	COIL,VIDEO IFT	3700005
L611	02167F101J	COIL	100 UH
L801	021673820K	COIL	82 UH
L3001	021W7A220K	COIL	22 UH
⚠ L3800	028R140018	COIL,DEGAUSS	8R140018
L3801	029X000109	COIL,LINE FILTER	SS28V-K10410
L3803	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14
L4001	02167F2R2J	COIL	2.2 UH
L4002	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L4201	02167F101J	COIL	100 UH
L4202	02167F101J	COIL	100 UH
L4205	02167F101J	COIL	100 UH
L8502	02167F1R0K	COIL	1 UH
L8503	02167F1R0K	COIL	1 UH
L8504	02167F1R0K	COIL	1 UH
T401	045009003J	TRANS,HORIZONTAL DRIVE	ETH09K14BZ
T3801	0481300064	TRANSFORMER,SWITCHING	81300064
		JACKS	
⚠ J801	066F120018	SOCKET,CATHODE RAY TUBE	ISMS01S
J4201	060J401082	RCA JACK	MSP-251V-05PBSN
J4202	060J131015	HEADPHONE JACK	MSJ-2000
J4203	060G421016	RCA JACK	HTJ-032-05AY
J4204	060G421017	RCA JACK	HTJ-032-05AW
J4205	060G421020	RCA JACK	HTJ-032-05AR
J4206	063G100046	SOCKET,21PIN	035_0_9972_05
		SWITCHES	
SW2201	0504101T34	SWITCH,TACT	EVQ21505R
SW2202	0504101T34	SWITCH,TACT	EVQ21505R
SW2204	0504101T34	SWITCH,TACT	EVQ21505R
SW2206	0504101T34	SWITCH,TACT	EVQ21505R
SW2207	0504101T34	SWITCH,TACT	EVQ21505R
SW2208	0504101T34	SWITCH,TACT	EVQ21505R
SW2209	0504101T34	SWITCH,TACT	EVQ21505R
SW2210	0504101T34	SWITCH,TACT	EVQ21505R
SW2211	0504101T34	SWITCH,TACT	EVQ21505R
SW3801	0530105018	SWITCH	ESB92S23B
		VARIABLE RESISTORS	
VR401	V1K62Q2BT8	VOLUME,SEMI FIXED	NVG6THTB471
VR402	V1K62H3BT8	VOLUME,SEMI FIXED	NVG6THTB222
VR3801	V1K63Q2BTE	VOLUME,SEMI FIXED	NVG6TLTAB471
		P.C.BOARD ASSEMBLIES	
PCB110	A5J505C110	PCB ASSY	TCC435A
PCB130	A5J505C130	PCB ASSY	VMC319A

REF. NO.	PART NO.	DESCRIPTION	
		P.C.BOARD ASSEMBLIES	
PCB250	A5J505C250	PCB ASSY	TMC574A
		MISCELLANEOUS	
B402	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B403	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B2601	024HC31022	CORE,BEADS	FCM2012H-102T04
B2602	024HC31022	CORE,BEADS	FCM2012H-102T04
B2603	024HC31022	CORE,BEADS	FCM2012H-102T04
B2604	024HC31022	CORE,BEADS	FCM2012H-102T04
B2605	024HC31022	CORE,BEADS	FCM2012H-102T04
B3801	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B3802	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B4001	024HC31022	CORE,BEADS	FCM2012H-102T04
B4002	024HC31022	CORE,BEADS	FCM2012H-102T04
B4003	024HC31022	CORE,BEADS	FCM2012H-102T04
B4004	024HC31022	CORE,BEADS	FCM2012H-102T04
B4005	024HC31022	CORE,BEADS	FCM2012H-102T04
B4006	024HC31022	CORE,BEADS	FCM2012H-102T04
B4007	024HC31022	CORE,BEADS	FCM2012H-102T04
B4008	024HC31022	CORE,BEADS	FCM2012H-102T04
B4009	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
B4201	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B8502	024HC31022	CORE,BEADS	FCM2012H-102T04
B8503	024HC31022	CORE,BEADS	FCM2012H-102T04
BT001	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
BT002	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
CD301	06CU12414A	CORD CONNECTOR	CU12414A
CD302	06CU12414A	CORD CONNECTOR	CU12414A
CD402	06CUG06001	CORD CONNECTOR	CUG06001
CD403	06CUG06001	CORD CONNECTOR	CUG06001
CD802	WDL6032038	FLAT CABLE	AWG26 6C BLACK 320MM
CD803	WBL6022038	FLAT CABLE	AWG26 4C BLACK 220MM
CD805	06CU82039A	CORD CONNECTOR	SM1098-009-1A
CF602	1012T04001	FILTER,CERAMIC TRAP	MKT40.4MA110P-TF
CF606	102E238R9G	FILTER,SAW	G1984M
CF609	1012T5R503	FILTER,CERAMIC TRAP	TPS5.5MB-TF21
CP101	069S260829	CONNECTOR PCB SIDE	A2001WV2-6P
CP301	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
CP302	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
CP402	069S450089	CONNECTOR PCB SIDE	A1561WV2-A5P
CP801	069S320010	CONNECTOR PCB SIDE	A2361WV2-2P
CD3802	06CUU23001	CORD CONNECTOR	CUU23001
⚠ CD3804	1206459803	CORD AC BUSH	6459803
CD4002	06CU2B2001	CORD CONNECTOR	CU2B2001
CD8501	122H0C1001	CORD JUMPER	2H0C1001
CP2601	069JYOT099	CONNECTOR PCB SIDE	IMSA-9631S-24Y901
CP2602	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
CP2603	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP3801	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
CP3802	069S320419	CONNECTOR PCB SIDE	A3963WV2-3PD
CP8001	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP8002	069J7C0029	CONNECTOR PCB SIDE	IMSA-9604S-12Z14
CP802A	067U006049	WIRE HOLDER	B2013H02-6P
CP802B	067U006049	WIRE HOLDER	B2013H02-6P
CP803A	067U004029	WIRE HOLDER	B2013H02-4P
CP803B	069R240589	CONNECTOR PCB SIDE	52147-0410
CP8502	069J7C0019	CONNECTOR PCB SIDE	IMSA-9604S-12Z13
EL001	124120301A	EYE LET	XRY20X30BD
EL002	124116281A	EYE LET	XRY16X28BD
F3801	080NT05004	FUSE	50T050H
FB401	043214037F	TRANSFORMER,FLYBACK	FNI-14B001
FH3801	06710T0006	HOLDER,FUSE	EYF-52BC
FH3802	06710T0006	HOLDER,FUSE	EYF-52BC
OS101	077Q004017	REMOTE RECEIVER	PIC-37243SR
RY3801	0560V20115	RELAY	ALKS321
SP301	070C533019	SPEAKER	SG04D11BNA
SP302	070C533019	SPEAKER	SG04D11BNA
TM101	076N0HE030	TRANSMITTER	RC-HE030
TU101	0145517008	TUNER,VHF-UHF	TUWRF4EG-778F2B
TH3801	D8R0A140M0	DEGAUSS ELEMENT	PTDAA1BF140M200
⚠ V801	098Y1404C8	CRT W/DY	A34JXV70X73N45
X101	100CT4R013	CRYSTAL	HC-49/U-S
X601	100CT4R408	CRYSTAL	HC-49/U
X4001	100BT02701	CRYSTAL	HC-49U/S

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

SPEC.NO.	M5J5-05C
O/R NO.	W395522